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SECOND WASTE REPOSITORY SITE SELECTION

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

NINETY-NINTH CONGRESS

SECOND SESSION

ON THE

SECOND WASTE REPOSITORY SITE SELECTION UNDER THE DEPARTMENT OF ENERGY'S OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

JUNE 16, 1986

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SECOND WASTE REPOSITORY SITE SELECTION

MONDAY, JUNE 16, 1986

U.S. SENATE,
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 12:07 p.m., in room SD-366, Dirksen Senate Office Building, Hon. Pete V. Domenici, presiding.

Present: Senators Domenici, Warner, Hecht, Evans, and Ford.

Also present: Marilyn Meigs, professional staff member; and Benjamin S. Cooper, professional staff member for the minority.

OPENING STATEMENT OF HON. PETE V. DOMENICI, A U.S. SENATOR FROM THE STATE OF NEW MEXICO

Senator DOMENICI. The hearing will please come to order.

Good afternoon, everyone. Today we are going to be receiving testimony on the Department of Energy's program for the selection of a second repository for the disposal of high level nuclear waste.

Under the Nuclear Waste Policy Act, site selection activities related to a second waste repository are laid out according to some specific guidelines:

By July 1, 1989, the Secretary of Energy must nominate five sites suitable for site characterization for a second repository.

By March 31, 1990, the President is to recommend to Congress a site that is qualified for construction of a second repository.

The authors of the Nuclear Waste Policy Act, as everyone knows, was adopted by the U.S. Congress in the lame duck session of 1982 and there has now arisen a disagreement which we will hear about here today in terms of interpretation of that act as it pertains to the second repository activities, the Secretary of Energy having made an announcement with reference to his intention not to proceed currently with the process of arriving at a second site selection.

Today this meeting is called at the request of a number of Senators because of that misunderstanding and disagreement, some feeling the Secretary is correct, some feeling the Secretary is not correct in his decision.

The Department has made considerable progress in the implementation of the Nuclear Waste Policy Act since its enactment. Yet, already we are seeing some slippage in the early milestones laid out in that act, and while Congress may have been somewhat optimistic in the setting of tight deadlines, we did so in the hope that diligent pursuit of clearly defined milestones would result in

real progress toward the final safe disposal of nuclear waste in this country.

Congress has been remarkably patient and understanding of the slippage in schedules that have occurred from time to time over the course of the past 2 years. In June of 1985 when the Department submitted its mission plan to Congress, it was apparent that the Department intended to make up for schedule slippages in the early years by a commitment to tightening up the deadlines in the later years in order that the 1998 date for initial acceptance of waste could still be met.

Personally, I am not overly concerned about the early slippage because it is prudent to proceed slowly to solve technical and public concerns.

As I stated during the Senate deliberations of the Nuclear Waste Policy Act in December 1982, it is important to have States and affected tribes resolve their concerns within a process of consultation and cooperation with the Department of Energy, rather than before the Congress.

On May 28, of this year, the Department announced that sites in Nevada, Texas and Washington have been selected for site characterization as candidates for the Nation's first geologic repository. The DOE also announced the indefinite postponement of site-specific work for a second repository. DOE cited three major reasons for its decision: (1) the continuing progress in the siting for the first repository; (2) the declining projection of the volume of spent fuel waste; and (3) the unsoundness of fiscal management of spending hundreds of millions of dollars because of the above two reasons.

I cite none of these reasons as justification. As I indicated at the offset of remarks, that is for Congress apparently to decide as it proceeds through the next few months, perhaps even the next few years. I merely stated what I know to be the three reasons given by the Secretary.

Critics quickly charged that DOE does not have the authority to indefinitely postpone the second repository. The three first repository sites immediately filed suit against DOE on the decision, but once again it is proven that the disposal of nuclear waste is still a very volatile and contentious issue.

Some of us here today were involved in the passage of the Nuclear Waste Policy Act in 1982. The participation was very broad in terms of Senators. They did not all have to be on the committees. Some of those who will testify today, including Senator Gorton of Washington, while not on the committee, was involved and helpful as we did this.

The hearing today will hopefully allow us to revisit the original intent of the Nuclear Waste Policy Act and to gain a better understanding of the basis of the Department's decision and will also afford the Department an opportunity to hear the reactions of various elected officials and interested public parties to the Department's recent announcement which I have just summarized.

I hope that we can conduct this hearing with sincerity and with a focus of implementing the Nuclear Waste Policy Act in resolving the waste disposal problem confronting this country with a minimum of accusations and rhetoric, although obviously this is an extremely contentious issue.

[The prepared statements of Senator McClure, Warner, and Mitchell follow:]

STATEMENT OF HON. JAMES A. MCCLURE, A U.S. SENATOR FROM THE STATE OF IDAHO

Good afternoon, this hearing was scheduled at the request of Senator Warner shortly after the Department announced a narrowing of candidate second repository sites to 12 sites in seven states, one of which was the State of Virginia. While Senator Warner's concerns may have eased considerably since the Department's May 28 decision to indefinitely postpone second repository site selection work, I can assure you that my concerns, have not changed at all. My concerns are, and always have been, the successful implementation of the Nuclear Waste Policy Act of 1982. We need a proper balancing of program elements to assure that a technically sound program proceeds in a timely manner towards the ultimate, safe disposal of spent nuclear fuel and high level waste.

I'm anxious to learn the reactions of the many distinguished witnesses we have before us. I'm also hoping that we can learn a lot more from the Department concerning the basis of their May 28 decision.

I want to clarify for the record that I am not here to point a finger, but rather, to extend a hand to all so that we can continue to work collectively—as we have in the past—to see that the storage and disposal of high level waste is achieved in a credible, technically sound manner.

Hearings such as this, serve to focus our attention on the difficult issues that face us at each step in the disposal of high level nuclear wastes. The authors of the Nuclear Waste Policy Act never fooled themselves into thinking that it was a perfect law. However, it was a good product of consensus and compromise. Until it can be demonstrated that the law should be amended, it must be followed. I am not convinced that the law needs to be changed at this point in time, but I am willing to listen. I want to thank Senator Domenici for holding this hearing and look forward to the tesimony of the witnesses.

STATEMENT OF HON. JOHN W. WARNER, A U.S. SENATOR FROM THE STATE OF VIRGINIA

Secretary Herrington and Mr. Rusche, I commend you and the Department for this decision to move forward with the first repository, as authorized by the Congess, and the monitored retrievable storage (MRS) facility proposed for Oak Ridge, Tennessee.

While I do believe that disposing of high-level radioactive waste in deep-mined repositories is the safest disposal method, I have been concerned with the speed which the Department has proceeded on selecting a second site.

The decision not to move forward with the second site is, I believe, both a sound fiscal and management policy.

First, the need for a second site is not urgent as the projections for waste generated by nuclear utilities has decreased dramatically since the earlier estimates.

In 1980, the Energy Information Administration (EIA) projected that 167,000 metric tons of spent fuel would be discharged from nuclear reactors by the year 2020, under the mid-case assumptions that included more than doubling our nuclear capacity.

EIA's mid-case projection has now dropped to 106,404 metric tons.

The EIA low-case estimate, which assumes that 36 new reactors will be ordered and placed into service by the year 2020 now projects only 90,000 metric tons of waste will be produced in the same time.

Because no nuclear power plants have been ordered since 1979, and no new orders are anticipated, I believe the actual amount of high-level waste will be even lower. EIA's no-new order case projection of 75,000 tons of waste is compatible with the 70,000 ton cap on the first site.

As has been testified earlier by the Department, there is no technical or scientific justification for the 70,000 metric ton cap on the first repository.

Second, the cost of on-site evaluation and complete characterization of the 12 identified sites for the second repository, with an environmental impact statement for each site, would cost $8 to $10 billion. While the funding for the DOE's waste management programs are not financed directly by the Federal Government, ratepayers' dollars are still footing the bill for this premature work.

These facts clearly show that the urgency in nuclear waste management is to move quickly with the MRS so that utilities are not forced to store excess amounts

of this hazardous material on site, and the first repository to prove that this waste can be disposed of safely.

For these reasons, I have joined in cosponsoring S. 2354, to remove the present volume cap, and I hope that this Committee will move this bill forward in this session.

Statement
Senator George J. Mitchell
Subcommittee on Energy Research
and Development
June 16, 1986

Mr. Chairman, I very much appreciate your extending to me the opportunity to appear before the Committee on Energy and Natural Resources to discuss the Department of Energy's second repository program.

For four decades, the U.S. produced nuclear wastes as a byproduct of the generation of electricity and the maintenance of a defense capability, without adequate consideration of the need to properly and safely dispose of this waste. Gradually, the need for comprehensive disposal legislation became more apparent. Congress responded with the enactment of the Nuclear Waste Policy Act of 1982.

This Committee played a leadership role in the development of this important legislation. As evidenced by this oversight hearing, the Committee members continue to give serious weight to their responsibility regarding the implementation of the NWPA.

The 1982 Act established a detailed framework within which the Federal government is to select, construct, and operate a high-level nuclear waste repository that will safely hold radioactive waste for 10,000 years. It also provides for the consideration of a site for a second deep geologic repository and for investigations into, first, the need for a monitored retrievable storage facility and, second, the advisability of commingling defense and civilian waste.

The process involving a possible second repository differs from the first in two major respects: (1) under current law a first repository must be built, but a second repository cannot be built and (2) the selection process for a second repository is several years behind the first.

Progress toward siting the repository required under the NWPA is being made. The Department has made a preliminary determination that three out of a longer number of sites which had been studied for several years were suitable for development as geologic repositories consistent with the Department's siting guidelines. On May 28, Energy Secretary Herrington nominated the three potentially acceptable sites for characterization. Those sites are Yucca Mountain, Nevada, Deaf Smith, Texas and Hanford, Washington.

After characterization is completed, DOE estimates that it will nominate a site to the President, who may accept or reject it in 1991. DOE anticipates now that construction will occur between 1994 and 1998 and that the repository will begin operation in 1998.

The NWPA also requires DOE to search for a site for a second repository. In January of this year, DOE published a draft Area Recommendation Report (ARR) which identified 12 areas (including two in Maine) that DOE considered potentially acceptable sites for a second repository.

After reviewing the comments from states and private citizens about the draft ARR, DOE was to have issued a final ARR sometime this fall. It was then to have begun making on-site field assessments of each potentially acceptable site listed in the final ARR. Utilizing the information gained from that process, DOE was to nominate five areas, and recommend three to the President for site characterization in 1991.

The second repository program still faces the most expensive part of the siting process, the characterization of the three sites nominated in 1991. Characterization is an expensive, time-consuming, detailed analysis of each site. It is expected to cost between $500 million and $1 billion for each site and would take at least five years, the same as for first repository sites. At that point, estimated to be in 1996, the second site process would have stopped until Congress acted to authorize construction of a second site, because DOE has no such authority under current law.

As we all know, however, at the same time that he nominated three sites for characterization for the first repository, the Secretary announced that he was postponing indefinitely plans for any site-specific work related to a second repository. My analysis of the history of NWPA, a review of the Department of Energy's present and anticipated compliance with the Act, and the state of the domestic nuclear power industry have led me to conclude that the Secretary has made a wise and reasoned decision. Further action by the Department to proceed with site selection for a second, unathorized high-level waste repository would be unnecessary and unwise at this time.

A second repository cannot be operational in time for this country to begin disposing of high-level nuclear waste by the 1998 deadline for DOE to take title to the waste. The necessary scientific research on the sites for a potential repository are several years behind the search for the first repository. It is impossible to accelerate that research to a degree which would allow a crystalline site to be the location for the first repository.

Therefore, construction of a repository at a crystalline site would not allow the waste disposal program to meet the underlying deadline of the Waste Policy Act, which is disposal of waste beginning January 31, 1998.

But, more importantly, a second repository is not needed to dispose of the country's high-level waste and spent reactor fuel. Current law limits the maximum amount of waste that can be stored in a repository to 70,000 metric tons. There is no technical or scientific basis for this limit. Without this limit there would be no need for a second repository. And it was based on estimates of the total amount of high-level waste that have proven to be exaggerated.

For many years, DOE has produced a range of projections of the volume of high-level waste to be generated by the year 2020. In 1980, the Energy Information Administration (EIA) within the Department of Energy projected that 167,000 metric tons of spent fuel would be discharged from nuclear reactors by the year 2020, under mid-case assumptions that included more than a doubling of this nation's current nuclear capacity. DOE's latest estimate, included in the December 1985 document, Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics, is that 126,000 metric tons of high-level radioactive commercial spent fuel will need to be disposed of in a high-level waste repository. EIA's mid-case projection has now dropped to 106,404 metric tons. This is a decrease of 36% in six years.

Because no nuclear power plants have been ordered since 1979, and no new orders are anticipated, I believe that the actual level of high-level waste generated by 2020 will be closer to the far more realistic 75,000 metric ton projection under EIA's no-new order case. In addition, promising new techniques have the potential to reduce the volume of waste even more.

It is likely that the actual amount of high-level waste will be even lower for several reasons. First, it is probable that no new commercial nuclear power plants will be ordered in this century. Many utilities are extending the useful life of their power plants in order to avoid having to make capital investment in a new facility. Second, utilities are choosing to use the fuel rods which make up a major portion of the high level waste for a longer time, thus producing less spent fuel. The DOE estimates that spent fuel burnup will increase at about 3.5% each year for the next several years.

There is absolutely no reason to spend money now to find a site for a second repository that is not now and will never be needed. In contrast, there are compelling fiscal reasons for constructing only one repository and terminating further activity to locate a site for a second repository. While the projected volume of high-level waste is dropping, the cost of high-level waste disposal is rising.

In July 1983, the total system life-cycle cost for DOE's high-level waste disposal program was estimated at roughly $19 billion. The program's cost estimate rose to $26.7 billion last year. In its March 1986 document, Nuclear Waste Fund Fee Adequacy: An Assessment, DOE now says the cost could be as high as $33.4 billion. As much as $9.5 billion of the total would go to the construction, operation, and decommissioning of a second repository.

The money being spent on the second repository program are not paid to the federal government as tax dollars. But they are paid by American taxpayers nonetheless. Under the NWPA, consumers pay for the full costs of DOE's high-level nuclear waste disposal programs through an fee charged on commercial nuclear-generated electricity. Electric consumers in Maine and many other states are paying in their monthly utility bills for this activity.

I commend Secretary Herrington for making this decision at this time, not many years in the future when millions of dollars had been spent in selecting a second site. That represents sound fiscal management. Nonetheless, I believe that there are legitimate questions associated with the May 28 decision that deserve careful examination by this Committee and the Senate as a whole.

First, Secretary Herrington has announced that while postponing site-specfic research on the second repository, DOE intends to continue technical studies of a second repository program as required by the NWPA. The exact nature of the research to be pursued needs to be clarified.

Second, following the January announcement of the draft ARR, state and local government, private citizens, and affected Indian Tribes submitted voluminous comments on, and criticisms of, the DOE document. In his announcement, the Secretary indicated that other than cataloging the 60,000 plus comments received, the Department plans no further work on the draft ARR. Given the tremendous effort and resources expended by all of the these individuals in putting together responses and comments on the draft ARR, the Department has an obligation to do more than simply catalogue the comments.

Third, all of us recognize that not every member of the Senate or this Committee is supportive of this decision. Some question the Secretary's authority to even make the decision at all. It is appropriate for the Committee to explore that issue with the Secretary at today's hearing. I note, however, that the more important question is whether or not there is a compelling reason for having two high-level waste repositories.

I believe not. So to me, the Secretary's decision should be supported by the Senate. If, however, the Committee determines that any action on proceeding with a second repository is best accomplished legislatively, I offer for consideration legislation I have introduced, S 2354, which terminates the crystalline repository project through which DOE would undertake a search for acceptable sites for a second deep geologic repository.

Under this bill, the U.S. Department of Energy is required to proceed in its process to select a site for and to construct and operate one high-level nuclear waste repository. But DOE would be prohibited from proceeding with the consideration of sites for a possible second repository. In addition, it would remove the volume limitation of the repository authorized in the Nuclear Waste Policy Act and limit the geologic medium in which a repository could be built and operated by DOE.

Finally, S 2354 would impose a moratorium on all high-level waste disposal activities if DOE does not meet its January 1998 deadline for the acceptance of high-level waste, and it would establish an independent scientific commission to report to Congress upon deep geologic disposal and available alternatives.

Once again, Mr. Chairman, I appreciate your allowing me to present my views on the second repository program to the Subcommittee. I look forward to working with you and the other members of the Subcommittee in the coming weeks and months on the extremely difficult issue of high-level nuclear waste disposal.

Senator DOMENICI. Before we proceed with the statement of the distinguished Senators from Nevada, Washington and Texas, I understand that some of the Senators on the committee, including perhaps the chairman of the full committee, Senator McClure, might want to make some opening remarks.

Before we do that, let me indicate that we have scheduled today to hear from three of our distinguished colleagues testifying as witnesses. We also had intended to hear from two Governors who are here, a Governor's representative who will appear with the public witnesses, and obviously the Secretary of Energy.

We will try to move with dispatch. The Secretary of Energy has been cooperative, but has indicated to me that he must leave here by 2:30 p.m. this afternoon. Because of that, I would hope that any Senators who are not going to testify would hold their remarks to a minimum by way of opening comments.

We now have the three Senators who intend to testify here: Senator Laxalt, Senator Bentsen, and Senator Gorton. What is the pleasure of the members here?

Senator WARNER. Mr. Chairman, I think that that is fair to our colleagues. We will withhold our statements. I, however, disagree with you. I think it was a sound decision by the Secretary of Energy, based on fiscal reasons and management policies, which I think will hold up under the scrutiny of this committee.

So I will forgo any further statements at this time.

Senator DOMENICI. I don't know that I said anything to the contrary, but you can disagree with me on whatever I said—whatever that is.

Senator FORD. Mr. Chairman, I yield back all the time from this side.

Senator DOMENICI. I appreciate that. Thank you very much.

Senator HECHT. Mr. Chairman.

Senator DOMENICI. Yes, Senator Hecht.

Senator HECHT. I do have a statement, but in the essence of time, if the other Senators are not going to make a statement, it is a short statement, but if you would rather not, I will just put it in the record.

Senator DOMENICI. No, Senator. I think you are one of the affected States, obviously. Why don't you proceed? You are not only affected; you are in the first three. We would be delighted to hear your opening remarks.

Senator HECHT. I promise you not more than 4 minutes.

Senator DOMENICI. We will set the clock.

STATEMENT OF HON. CHIC HECHT, A U.S. SENATOR FROM THE STATE OF NEVADA

Senator HECHT. Mr. Chairman, I am very pleased you are conducting this hearing today and thank you for your great interest in this issue.

On May 28, Nevada received two pieces of disappointing news from the Department of Energy involving high level nuclear waste. The first was a decision that Yucca Mountain is definitely in the running for the first high level waste repository. The second is that

whatever State ends up with the first repository, may end up with the only repository.

The President's decision to choose Nevada as a possible site for the first nuclear waste dump did not come as a surprise, although none of us are very happy about it. However, the Department's decision to indefinitely postpone the second repository did come as a real surprise and has led a number of Nevadans to wonder why the Department proposes to take this seemingly inexplicable action.

As long as the people of Nevada were confident that they would never be asked to bear the entire national burden for high level waste, they were reluctantly willing to participate in the site selection process in good faith.

But now the people of Nevada wonder whether the Federal Government has been completely open with them, upfront with what its plans and intentions really are. The old call for a Sagebrush Rebellion can once again be heard, triggered by the feeling that big government in Washington is not to be trusted.

I sincerely hope that I will hear something today that will allow me to reassure the people of Nevada that they have not been taken for granted by the Department of Energy, that they should continue to have faith in the Department's devotion to the law, and that their rights will not be violated by the Washington bureaucracy.

Specifically, I would like to hear that there will be a second repository. I would like to hear that work on that repository will be completed on the schedule mandated by law, until and unless the Congress amends the law. And I would like to hear that Nevada will be given freely and without stalling or hesitation, the Federal funds to do independent research in connection with the possible site at Yucca Mountain for the first repository.

I must advise my colleagues as well as the Department, that if I am not reassured on these matters as a result of today's hearings, I am prepared to follow through with appropriate remedies available to me, including legislation.

Thank you, Mr. Chairman.

Senator DOMENICI. Thank you very much, Senator Hecht.

Senator Laxalt, would you proceed?

Senator WARNER. Oh, you forgot Senator Evans.

Senator DOMENICI. I am sorry. Senator Evans, excuse me. I thought maybe that since we had——

Senator EVANS. You could get by me.

Senator DOMENICI. Yes, I thought I was going to get by you. But I really don't mind not getting by you.

STATEMENT OF HON. DANIEL J. EVANS, A U.S. SENATOR FROM THE STATE OF WASHINGTON

Senator EVANS. Mr. Chairman, I can understand the willingness to get by me because I have been very quiet on this issue, even though our State is one of the three. I have been, I think, most accommodating to the Department of Energy and to others, believing that we ought to conduct this entire matter on a scientific basis and find out what is best for the country. And if what is best for the country includes the State of Washington, so be it.

But, Mr. Chairman, I have changed my mind. Let me just read, just very briefly, excerpts and I would ask that my entire opening statement be included in the record.

As a Senator from one of the three States nominated for consideration as a site for the first deep geologic repository, I have a keen interest in the Department's activities with relation to high level waste. I was not a Member of the Senate when the Nuclear Waste Policy Act of 1982 was crafted, but I have become distinctly aware of the extremely delicate and complicated nature of this legislation.

The act represents the outcome of intense technical and political pressures, and would not have passed if all of the elements that are in the act today were not included in the act.

Instead, it appears that the Department of Energy has made a unilateral decision to abrogate its responsibility under the law, choosing to discontinue site-specific research which will ultimately result in the failure to recommend sites for characterization of a second repository as required—as required under section 112 of the act.

This unfortunate and ill-timed move by DOE does not simply impact the second repository program, but threatens the integrity of the whole high-level nuclear waste disposal plan. NWPA was crafted with the clear intent of providing for two repositories. For the citizens of the States under consideration for the first repository, these plans for a second repository made it clear that the waste disposal program was truly a national solution to the waste problem and that their State would not become the sole dumping grounds for all of our Nation's high-level nuclear waste.

This careful balance has now been disrupted. Mr. Chairman, I think it is clear that if we do not bring the repository program back on track and restore public confidence, we will face an ever-increasing number of lawsuits and delays, greatly increasing costs to the Govermment and ratepayers, and lead to an unraveling of the carefully constructed disposal schedule.

Mr. Chairman, in my view, the DOE has brutally mangled the act it is obliged to follow. Unless the Department can quickly redevelop public confidence in its management of the program and accurately follow the law, then I believe, Mr. Chairman, new leaders ought to be chosen.

[The prepared statement of Senator Evans follows:]

Senator Daniel J. Evans

Hearing on DOE's Second Repository Program

June 16, 1986

MR. CHAIRMAN, I AM PLEASED TO BE HERE TODAY TO HEAR TESTIMONY REGARDING THE DEPARTMENT OF ENERGY'S SECOND REPOSITORY PROGRAM, OR PERHAPS IT IS NOW MORE ACCURATE TO SAY, THE DEPARTMENT'S DECISION TO ABANDON THIS PROGRAM.

AS A SENATOR FROM ONE OF THREE STATES NOMINATED FOR CONSIDERATION AS THE SITE FOR THE FIRST DEEP GEOLOGIC REPOSITORY, I HAVE A KEEN INTEREST IN THE DEPARTMENT'S ACTIVITIES WITH RELATION TO HIGH-LEVEL WASTE. WHILE I WAS NOT A MEMBER OF THE SENATE WHEN THE NUCLEAR WASTE POLICY ACT OF 1982 WAS CRAFTED, I HAVE SINCE BECOME DISTINCTLY AWARE OF THE EXTREMELY DELICATE AND COMPLICATED NATURE OF THIS LEGISLATION. THE ACT REPRESENTS THE OUTCOME OF INTENSE TECHNICAL AND POLITICAL PRESSURES. IT WAS TO BRING A SOLUTION TO THE PROBLEM OF HOW TO DISPOSE OF THE LARGE QUANTITIES OF SPENT FUEL AND OTHER RADIOACTIVE WASTE WHICH HAS BEEN PRODUCED BY OUR NATION'S COMMERCIAL REACTORS AND THE FEDERAL GOVERNMENT'S DEFENSE ACTIVITIES. WE CANNOT AFFORD TO MAKE ANY SUDDEN OR EXTREME CHANGES IN THE SCHEDULE ESTABLISHED UNDER THE

ACT WITHOUT LONG AND CAREFUL CONSIDERATION. INSTEAD, IT APPEARS THAT DOE HAS MADE A UNILATERAL DECISION TO ABROGATE ITS RESPONSIBILITY UNDER THE LAW, CHOOSING TO DISCONTINUE SITE SPECIFIC RESEARCH WHICH WILL ULTIMATELY RESULT IN THE FAILURE TO NOMINATE SITES FOR A SECOND REPOSITORY AS REQUIRED UNDER SECTION 112 OF THE ACT.

THIS UNFORTUNATE AND ILL-TIMED MOVE BY DOE DOES NOT SIMPLY IMPACT THE SECOND REPOSITORY PROGRAM, BUT THREATENS THE INTEGRITY OF THE WHOLE NUCLEAR WASTE DISPOSAL PLAN. THE NWPA WAS CRAFTED WITH THE CLEAR INTENT OF PROVIDING FOR TWO REPOSITORIES. FOR THE CITIZENS OF THE STATES UNDER CONSIDERATION FOR THE FIRST REPOSITORY, THESE PLANS FOR A SECOND REPOSITORY MADE IT CLEAR THAT THE WASTE DISPOSAL PROGRAM WAS TRULY A NATIONAL SOLUTION TO THE WASTE PROBLEM, AND THEIR STATES WOULD NOT BECOME THE SOLE DUMPING GROUND FOR ALL OUR NATION'S HIGH-LEVEL WASTE.

THIS CAREFUL BALANCE HAS NOW BEEN DISRUPTED, AND MY STATE, AS WELL AS TEXAS AND NEVADA, HAS FILED SUIT AGAINST THE DEPARTMENT, CREATING DELAYS AND ADDING EXPENSE IN THE FORM OF INCREASED LEGAL FEES. IN ADDITION TO THE POLITICAL PROBLEMS WHICH HAVE BEEN CAUSED BY THE DOE'S DECISION, THERE ARE ALSO TECHNICAL CONSIDERATIONS WHICH HAVE BEEN RAISED. MOST IMPORTANTLY, WHILE THE NWPA STRESSES THE NEED FOR GEOLOGIC DIVERSITY IN THE REPOSITORY PROGRAM, THE DEPARTMENT HAS ACTED IN

A MANNER WHICH TAKES CRYSTALLINE ROCK OUT OF CONSIDERATION AS A POTENTIAL MEDIUM FOR A REPOSITORY.

I AM ALSO QUITE CONCERNED THAT WE CONTINUE TO MOVE FORWARD WITH RESEARCH ACTIVITIES WITH REGARD TO ALTERNATIVE DISPOSAL OPTIONS. I AM PARTICULARLY INTERESTED IN THE CONTINUATION OF SUBSEABED DISPOSAL RESEARCH, WORK WHICH IS ESPECIALLY IMPORTANT GIVEN THE INTERNATIONAL COOPERATION WHICH HAS CHARACTERIZED THIS PROGRAM. I AM ALSO DEEPLY INTERESTED IN MAINTAINING OUR EFFORTS TO SITE AND BUILD A MONITORED RETRIEVABLE STORAGE FACILITY. SUCH AN INTERIM STORAGE FACILITY IS LIKELY TO TAKE ON INCREASED SIGNIFICANCE WITH THE PROBLEMS WHICH HAVE DEVELOPED IN THE REPOSITORY PROGRAM.

FINALLY, MR. CHAIRMAN, I THINK IT IS CLEAR THAT IF WE DO NOT BRING THE REPOSITORY PROGRAM BACK ON TRACK AND RESTORE PUBLIC CONFIDENCE, WE WILL FACE AN EVER-INCREASING NUMBER OF LAWSUITS AND DELAYS, GREATLY INCREASING COSTS TO THE GOVERNMENT AND RATEPAYERS AND LEADING TO AN UNRAVELING OF THE CAREFULLY-CONSTRUCTED DISPOSAL SCHEDULE. WE HAVE SEEN A REAL DECLINE IN OUR DOMESTIC NUCLEAR INDUSTRY IN RECENT YEARS, WITH AN ABADONMENTOF NEW ORDERS FOR PLANTS. BUT DESPITE THESE SETBACKS AND THE QUESTIONS RAISED IN LIGHT OF THE CHERNOBYL ACCIDENT, NUCLEAR POWER REMAINS AN IMPORTANT ENERGY RESOURCE FOR OUR COUNTRY.. WITH THE LATEST REPORTS ON THE SO-CALLED "GREENHOUSE EFFECT" LEADING FROM INCREASED CARBON DIOXIDE IN THE ATMOSPHERE,

THE DETRIMENTAL ENVIRONMENTAL IMPACTS OF COAL ARE BECOMING INCREASINGLY APPARENT. NUCLEAR POWER, THEN, WILL LIKELY BE WITH US FOR A NUMBER OF YEARS INTO THE FUTURE. AND IF NUCLEAR POWER IS TO REMAIN A VIABLE OPTION FOR OUR NATION, WE MUST ENSURE AN EFFECTIVE, RELIABLE, AND MOST IMPORTANTLY, SAFE METHOD OF DISPOSING OF THE SPENT FUEL AND OTHER RADIOACTIVE BYPRODUCTS OF NUCLEAR POWER GENERATION. THE NWPA REPRESENTS A GOOD FRAMEWORK FOR BRINGING A SOLUTION TO THIS PROBLEM, BUT I AM AFRAID THAT DOE HAS EMBARKED ON A PATH WHICH LEADS DIRECTLY AWAY FROM THIS OUTCOME.

MR. CHAIRMAN, THE DOE HAS BRUTALLY MANGLED THE ACT IT IS OBLIGED TO FOLLOW. UNLESS THE DEPARTMENT CAN QUICKLY REDEVELOP CONFIDENCE IN ITS MANAGMENT OF THE PROGRAM, AND ACCURATELY FOLLOW THE LAW, THEN NEW LEADERS OUGHT TO BE CHOSEN. I LOOK FORWARD TO HEARING FROM THE WITNESSES TODAY AND ESPECIALLY FROM MY DISTINGUISHED COLLEAGUE FROM WASHINGTON, SENATOR GORTON, WHOSE REMARKS SHOULD BE PARTICULARLY APPROPRIATE BECAUSE HE WAS SO INSTRUMENTAL IN DEVELOPING THE SECOND REPOSITORY CONCEPT IN THE NWPA.

Senator WARNER. New leaders?
Senator EVANS. New leaders.
Senator DOMENICI. Thank you very much.
Well, obviously, we all know where you stand.
Senator FORD. Could I have a copy of that so I could understand it?
Senator EVANS. It will be in the record.
Senator DOMENICI. I don't think I have intentionally or otherwise skipped anyone, have I?
Senator Laxalt.

STATEMENT OF HON. PAUL LAXALT, A U.S. SENATOR FROM THE STATE OF NEVADA

Senator LAXALT. I thank the chairman and members of the committee. First of all, I would like to associate myself with the remarks of my colleagues Senator Hecht and Senator Evans as well. They reflect generally how I feel.

I am delighted to be here with my colleagues, Senator Bentsen and Senator Gorton. I guess this table could be appropriately called the victims' table.

Senator WARNER. Would the Senator kindly pull the mike up? We are anxious to hear.

Senator LAXALT. You may not be, Senator Warner.

[Laughter.]

Senator DOMENICI. Senator Warner, he said that that was the victims' table, in case you didn't hear that.

Senator LAXALT. The decision to drop plans for a second repository is but the latest in a long line of actions that indicate the DOE's willingness to ignore the spirit, if not the letter, of the Nuclear Waste Policy Act. This high-handed disregard of the expressed statutory mandate calls into question the validity of site selection activities carried out thus far.

The Nuclear Waste Policy Act intended for site selection decisions to be made after careful scientific evaluation and in consultation with affected States and Indian tribes. That was the intent from the very beginning. This is not to be a solo trip on the part of DOE. They were supposed to be in consultation with the various States that were involved in the site selection process, and the tribes as well.

This impartial, deliberate, technically conservative process is essential to promote public confidence in the outcome. Senator Hecht alluded to that. In this highly sensitive, emotional area, public confidence is absolutely essential to the integrity of this process.

Yet, despite the requirement for State consultation, the DOE has repeatedly ignored the legitimate efforts of affected States to participate. Mine is one of them. And we are deeply resentful of that.

Despite the gravity of this undertaking, the DOE is taking every opportunity to shortcut the site selection process. The desire to meet deadlines has preempted concerns of public confidence in safety.

By way of illustration, the DOE has stonewalled Nevada in its efforts to secure funding for pre-site characterization studies, a perfectly reasonable request contemplated by the Act, even though the

Ninth Circuit Court of Appeals ruled in our favor last December. We had to go to court to get what we thought we had anyhow within the framework of this Act.

The DOE has refused to heed a GAO warning and recommend more than three sites for characterization, despite the consequences for the program if no site is found suitable after site characterization.

In short, the DOE has flaunted its authority over both the legislative and judicial branches of government. Now, these actions have been particularly frustrating for Nevadans, since statements by DOE officials have been interpreted by some in our State to mean that the Yucca Mountain site is first on the list. There has been too much idle speculation about that as well.

The citizens of Nevada have always believed strongly in contributing their fair share toward the betterment of this Nation, and we have attempted to be good soldiers, and I think we have been. We will not, however, allow the Federal Government to impose upon us a process that is not clearly defined as potentially unfair. We will not permit the DOE to railroad a nuclear dump into Nevada, and that is essentially what we feel is happening here.

Since DOE has frustrated us on every front and repeatedly ignored our legitimate concerns, we have been forced to initiate action on two fronts. First, we have filed in conjunction with the Governor and some of our other officials five lawsuits in the Ninth Circuit Court of Appeals. These lawsuits seek to invalidate the recent recommendation of sites for characterization on the grounds that the process has been flawed, and we feel deeply that it has been.

In addition, we will introduce today the companion to H.R. 5031, Congressman Vucanovich's bill to repeal sections 112 and 113 of the Nuclear Waste Policy Act. The bill will require the Secretary of Energy to suspend site selection and characterization activities until the Congress issues new guidelines—and we need them, and we need them badly.

We simply cannot allow a bad process to continue unchallenged. Now, I recognize the Nuclear Waste Policy Act is a result of long deliberations and compromise among many interests. Senator Evans alluded to that, and it was. That was a tough bill here and it had to reconcile the technical with the political aspects.

It established a process to lead to the selection of the best geologic site. That is what the game is about. It attempted to balance the interests of the individual States and the Nation as a whole. But in practice, the act has proved to be ambiguous.

The DOE has fully exploited these ambiguities to speed up the process at any cost. Even where the act is clear, the DOE has refused to follow its dictates. I believe the resulting damage to public confidence can never be repaired. In my opinion it is now simply politically impossible for high level nuclear waste ever to be stored in bulk in the Continental United States.

Therefore, it is time I think for us to reopen the debate. We can no longer accept as a premise the solution devised by Congress in 1982. We in government have a duty to be absolutely certain that we are utilizing the best and safest means of disposing of this waste. Until we have carefully studied every possible alternative,

we cannot know this, and history is replete with examples of those who made important decisions with incomplete information.

The recent nuclear disaster at Chernobyl reminds us that these responsibilities are international and cannot be undertaken in isolation. If nothing else, Chernobyl proved that these burdens of the nuclear age are no respecter of man-made boundaries.

Decisions involving nuclear materials may have an impact far beyond the borders of any one State. If Canada were to have an accident with the disposal of its high level nuclear waste, the United States could certainly suffer as well. And whatever efforts we have made to dispose of our own waste safely would not make much difference.

We must join, it seems to me, with other nations to set the highest standards for safety in the operation of nuclear power plants and disposal of high level nuclear waste. We must pool our scientific and economic resources to thoroughly explore alternatives to geologic disposal.

A number of experts believe that deep sea burial is technologically feasible.

I understand statements were made by some of the DOE officials to that effect to the House committee several days ago. And while exploration of the ocean floor may take more time and cost more money, these considerations pale in light of the potential for irreparable harm.

We cannot follow the path of least expense and least resistance. We owe it to ourselves and to future generations to take the time and spend the money to do it right. We cannot overlook any possible answer to a problem this crucial, but we will never have the chance to correct our mistake.

I thank the members of the committee.

[The prepared statement of Senator Laxalt follows:]

STATEMENT OF SENATOR PAUL LAXALT

before the

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
SENATE SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

on the

SECOND WASTE REPOSITORY SITE SELECTION UNDER
DOE's OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

Mr. Chairman and members of the Subcommittee.

Thank you for the opportunity to appear today to express my opposition to the Department of Energy's process in selecting potential sites for a high-level nuclear waste dump.

The decision to drop plans for a second repository is but the latest in a long line of actions that indicate the DOE's willingness to ignore the spirit, if not the letter, of the Nuclear Waste Policy Act. This high-handed disregard of the express statutory mandate calls into question the validity of site selection activities carried out thus far.

The Nuclear Waste Policy Act intended for site selection decisions to be made after careful scientific evaluation and in consultation with affected states and Indian tribes. This impartial, deliberate, technically conservative process is essential to promote public confidence in the outcome. Yet despite the requirement for state consultation, the DOE has repeatedly ignored the legitimate efforts of affected states to participate. Despite the gravity of this undertaking, the DOE has taken every opportunity to shortcut the site selection process. The desire to meet deadlines has preempted concerns of public confidence and safety.

By way of illustration, the DOE has stonewalled Nevada in its efforts to secure funding for pre-site characterization studies -- even though the Ninth Circuit Court of Appeals ruled in our favor last December. The DOE has refused to heed a GAO warning and recommend more than three sites for characterization -- despite the consequences for the program if no site is found suitable after site characterization. In short, the DOE has flaunted its authority over both the legislative and judicial branches of government.

These actions have been particularly frustrating for Nevadans, since statements by DOE officials have been interpreted by some in our state to mean that the Yucca Mountain site is first on the list. The citizens of Nevada have always believed strongly in contributing their fair share toward the betterment of this nation, and we have attempted to be good soldiers. We will not, however, allow the federal government to impose upon us a process that is not clearly defined and is potentialy unfair. We will not permit the DOE to railroad a nuclear dump into Nevada.

Since DOE has frustrated us on every front and repeatedly ignored our legitimate concerns, we have been forced to abandon cooperation for confrontation and have initiated action on two fronts. First, we have filed five lawsuits in the Ninth Circuit Court of Appeals. These lawsuits seek to invalidate the recent recommendation of sites for characterization on the grounds that the process was flawed. In addition, we will introduce today the companion to H.R. 5031, Congressman Vucanovich's bill to repeal Sections 112 and 113 of the Nuclear Waste Policy Act. The bill will require the Secretary of Energy to suspend site selection and characterization activities until the Congress issues new guidelines. We simply cannot allow a bad process to continue unchallenged.

I recognize that the Nuclear Waste Policy Act is the result of long deliberations and compromise among many interests. It established a process intended to lead to the selection of the best geologic site. It attempted to balance the interests of individual states and of the nation as a whole. But in practice, the Act has proved to be ambiguous. The DOE has fully exploited these ambiguities to speed up the process at any cost. Even where the Act is clear, the DOE has refused to follow its dictates. I believe that the resulting damage to public confidence can never be repaired. In my opinion, it is now simply politically impossible for nuclear waste ever to be stored in the continental United States.

Therefore, it is time to reopen the debate. We can no longer accept as a premise the solution devised by Congress in 1982. We in government have a duty to be absolutely certain that we are utilizing the best, safest means of disposing of this waste. Until we have carefully studied every possible alternative we cannot know this, and history is replete with the remains of those who made important decisions with incomplete information.

The recent nuclear disaster at Chenobyl reminds us that these responsibilities are international and cannot be undertaken in isolation. If nothing else, Chernobyl proved that these burdens of the nuclear age are no respecter of man-made boundaries. Decisions involving nuclear materials may have an impact far beyond the borders of any one state. If Canada were to have an accident with the disposal of its high-level nuclear waste, the United States could certainly suffer as well -- and whatever efforts we have made to dispose of our own waste safely would not make much difference. We must join with other nations to set the highest standards for safety in the operation of nuclear power plants and disposal of high-level nuclear waste. We must pool our scientific and economic resources to thoroughly explore alternatives to geologic disposal. A number of experts believe that deep-sea burial is technologically feasible. While exploration of the ocean floor may take more time and cost more money, these considerations pale in light of the potential for irreparable harm.

We cannot follow the path of least expense and least resistence. We owe it to ourselves and to future generations to take the time and spend the money to do it right. We cannot overlook any possible answer to a problem this crucial, for we will never have the chance to correct our mistake.

Senator DOMENICI. Thank you very much, Senator Laxalt.
Senator Bentsen.

STATEMENT OF HON. LLOYD BENTSEN, A U.S. SENATOR FROM THE STATE OF TEXAS

Senator BENTSEN. Thank you very much, Mr. Chairman. I, too, would like to associate my comments along with the Senators from Nevada and the State of Washington.

I appreciate this opportunity to appear before you. I have watched with considerable interest the work of DOE, particularly once they started considering Texas as a site for the Nuclear Waste Disposal Act. Now, what I have seen thus far does not give me much comfort insofar as the care and the capabilities that they have expressed and shown in selecting such a site.

Most recently, DOE announced that it was indefinitely postponing work on a second site in the Eastern part of the United States. As I expressed in a letter to Secretary Herrington on June 6, I seriously question the legality and the wisdom of that kind of a decision.

One point ought to be particularly clear. The Nuclear Waste Disposal Act requires the Secretary of Energy to pursue a second site. The act requires the Secretary to characterize and select a site for the second repository just as much as it does for the first round. The only significant difference is that they have to come back to Congress for authorization of that particular site.

The DOE has stated that its decision to abandon the second round will be affirmed in its Mission Plan—the agency's schedule for action required under the statute. It does not take one long in Congress to realize that just because you are violating a law doesn't make that violation legal. The fact that DOE is not hiding the abuse of that law in this regard doesn't give me much comfort, so long as the agency continues to pursue this kind of a course of action which the Congress clearly intended to negate and preclude.

In addition, I question the wisdom of DOE's decision. The reasons offered by DOE for this change in plan is that the recent estimates of the amount of space that is going to be needed for nuclear waste will be able to be cutback because they are not going to have as much nuclear waste. They have cut it back from what they were estimating at 140,000 metric tons. They say it is going to be 130,000 metric tons. They cut it back by 10 percent, but yet they are talking about voiding the second site, and that does not make sense to me.

First, the statute requires DOE to pursue that second round. This is not a discretionary decision under the Nuclear Waste Policy Act.

Second, they say that these estimates are for the needs by the year 2020. Now, when they talk about cutting back, they are talking about cutting back on the commercial waste that will be generated, but they ignore the fact that on the Defense Department you have a buildup that is going to create additional wastes from the military. The act is very clear that DOE must pursue the second round, regardless of DOE's views on the need for the second round. A publicly stated intention to not abide by the will of Congress is an insufficient means of compliance.

The only way I know of legally avoiding meeting the statutory requirement is to come before us and ask for a change in that law. And they have not done that.

Equally troubling to me is that these violations are not new. First round States such as Texas have been frustrated by repeatedly missed deadlines. For example, section 112, that was referred to by the Senator from Nevada, requires DOE to recommend three sites to the President for characterization not later than January 1 of 1985. That announcement was made last month—1½ years late. DOE anticipates that there will continue to be delays in implementation. Yet the agency refuses to concede that they will not be able to accept title in 1998 as the law requires. They say they are going to meet that deadline in spite of the fact that they are missing all of these earlier deadlines.

I get very concerned with the missing of the early deadlines, because if my own State was chosen as the final site, and they missed the early deadlines, and then they are going to take title in 1998, my concern is that they contract that final period into a period of time that is so short that they cannot safely do the job and that we have a high risk in that area.

So I have introduced legislation in S. 2201 earlier this year, asking for a 10-year delay and therefore DOE would not have any excuse for pressing more quickly than might be safe.

Another concern not fully formulated when the Nuclear Waste Policy Act was enacted is the effect of site characterization on a region. The Panhandle of Texas, for example, is a major agriculture-producing region for the United States. And site characterization would mean that that community would be severely disrupted. A formerly agricultural area would be temporarily transformed into a nuclear waste construction area.

We have already had some indications that food purchasers may be hesitant to buy food grown in an area literally or figuratively tainted by a specter of high level nuclear waste.

We have already had some indications that food purchasers may be hesitant to buy food grown in an area literally or figuratively tainted by a specter of high level nuclear waste.

We have a seed farm in that area that provides much of the world's sorghum wheat seeds. We have some health foods companies growing health foods in that area and you can imagine that crowd buying health foods from a waste area like that. I know that perceptions may be inaccurate.

But those of us who run for public office know how strong perceptions are in the public mind. I am concerned that a site characterization alone could devastate an area such as the Panhandle that is so dependent on one economic activity: agriculture.

To address this problem, I included in S. 2201 a provision that permits the State to veto the authorization, either after or before that kind of a characterization. But they would only have the one opportunity to veto.

In this way States that feel strongly about the risks of site characterization can prevent its ill effects. Then, of course, it would come back to the Congress for final action. As members of this committee know well, the Nuclear Waste Policy Act is a finely tuned compromise. In my view, the DOE has tipped the scales in

this compromise by failing to meet the schedules included in the act and by declaring its intent to abandon the second site.

Now while I can appreciate the reluctance to reopen an issue as delicate as this one, I do not believe that this hesitation should outweigh our need to see that the act is appropriately implemented and updated to include information that is gleaned from our experience. We frankly just have too much at stake in Texas. We are talking about a site that would be drilled through the aquifer that supplies the water to that entire area.

So I am appreciating very much the attention of this committee, and we appreciate their addressing and having hearings on the piece of legislation that I introduced earlier in the year.

In short I would say, Mr. Chairman, that the group you have heard from thus far just do not want to be dumped on.

[The prepared statement of Senator Bentsen follows:]

June 16, 1986

STATEMENT OF

SENATOR LLOYD BENTSEN

HIGH-LEVEL NUCLEAR WASTE

Thank you very much for providing me with an opportunity to appear before you today to discuss the recent actions of the Department of Energy regarding the second high-level nuclear waste repository and to give you my views on implementation of the Nuclear Waste Policy Act. I have closely observed DOE's activities over the last few years because of the agency's interest in a site in Texas. What I have seen does not give me comfort that the Department of Energy is pursuing the best possible course of action to select sites for high-level nuclear waste repositories.

Most recently, the DOE announced that it was "indefinitely postponing" work on the second site. As I expressed in a letter to Secretary Herrington on June 6, I seriously question the wisdom and the legality of that decision. One point should be particularly clear: the Nuclear Waste Policy Act requires the Secretary of Energy to pursue a second site. The Act requires the Secretary to characterize and select a site for the second repository, just as it does for the first round. The only

significant difference in this regard is that the second site requires construction authorization by Congress.

The DOE has stated that its decision to abandon the second round will be affirmed in its Mission Plan--the agency's schedule for action required under the statute. It does not take one long in Congress to realize that just because you say you are violating the law does not make the violation legal. The fact that DOE is not hiding its abuse of the law in this regard is of no comfort to me so long as the agency pursues this course of action, which Congress clearly intended to preclude.

In addition, I question the wisdom of DOE's decision. The reasons offered by DOE for this change in plan is that recent estimates of the amount of waste needing storage had declined and that much money would be saved if the second round were "indefinitely postponed". As to the question of adequate storage, the Nuclear Waste Policy Act limits the storage capacity at the first site to 70,000 metric tons. This is a statutory limit that was part of the compromise worked out in the Congress.

The DOE's estimates for waste needing storage have declined, according to information they have provided me, from 1982 estimates of 140,000 metric tons to current estimates of 130,000 metric tons: a change of less than 10%. All the estimates are required under the law to be estimates of storage capacity needed

in 2020. DOE's statement that the second round is unnecessary ignores several facts. First, the statute requires DOE to pursue the second round: this is not a discretionary decision under the Nuclear Waste Policy Act. Second, the Act limits the capacity of the first repository to 70,000 metric tons or just over 50% of the capacity we know we will need by 2020. Lastly , the DOE's decision ignores the fact that, while commercial waste estimates may decline, estimates of military waste needing disposal are increasing due to our military buildup.

The Act is very clear that DOE must pursue the second round, regardless of DOE's views on the need for the second round. A publicly stated intention to not abide by the will of Congress is an insufficient means of compliance. The only way I know of to legally avoid meeting statutory requirements is to amend the statute itself. Particularly troubling to me is that the DOE has not even requested Congress to amend the Nuclear Waste Policy Act, which the Department is currently violating.

Equally troubling to me is the fact that these violations are not new. First round States, such as Texas, have been frustrated by repeatedly missed deadlines. For example, section 112 of the Nuclear Waste Policy Act requires DOE to recommend three sites to the President for characterization not later than January 1, 1985. This announcement was made last month, one and a half years after the statute required. DOE anticipates there

will continue to be delays in implementation, yet the agency refuses to concede that they will not be able to accept title in 1998 as the law requires.

I am extremely concerned that DOE will fail to meet the early deadlines, which it is already doing, but will continue to insist on meeting the 1998 deadline for accepting title to the waste. My specific concern is that DOE will be years behind schedule, but will attempt to compress the remaining activities, such as repository construction, into too short a period. In order to address this possibility, I introduced S. 2201 earlier this year. This legislation postpones the 1998 deadline by 10 years so that DOE will have no basis for pressing ahead more quicky than might be safe.

Another concern not fully formulated when the Nuclear Waste Policy Act was enacted is the effect of site characterization on a region. The Panhandle of Texas, for example, is an area of prime agricultural land that is located over a major aquifer, the Ogallala. Site characterization would mean that the comunnity would be severely disrupted: a formerly agricultural area would be temporarily transformed into a nuclear waste construction area. We have already had indications that some food purchasers may be hesitant to buy food grown in an area literally or figuratively tainted by the spectre of high-level nuclear waste.

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This is a particular problem for a seed farm in the area that provides a significant portion of the world's sorghum wheat seeds. In addition, an organic, health-food grower operates in the area. It is unlikely that consumrs of this product would long prefer to buy this product grown near where DOE is investigating the possiblity of a high-level nuclear waste site.

Perceptions may be inaccurate, but they are powerful. I am concerned that site characterization alone could devastate an area such as the Panhandle that is so dependent upon one type of economic activity. To address this problem, I included in S. 2201 a provision that permits States to veto site characterization,before characterization activity is undertaken. This builds on a provision in current law that authorizes such a veto, which Congress may override, over site selection. My bill provides that States must choose which veto to exercise, since they can use only one. In this way States that feel strongly about the risks of site characterization can prevent its ill-effects.

As members of this Committee know well, the Nuclear Waste Policy Act is a finely tuned compromise. In my view, the DOE has tipped the scales in this compromise by failing to meet the schedules included in the Act and by declaring its intention to abandon the second site. While I can appreciate a reluctance to reopen an issue as delicate as this, I do not believe this

hesitation should outweigh our need to see that the Act is appropriately implemented and updated to include information gleened from our experience. I hope that the Committee will carefully consider legislation such as S. 2201 and will hold a markup in the near future. This issue is too important to ignore and it behooves all of us to assure that the Act is properly implemented and that our citizens are protected.

Senator DOMENICI. Thank you very much, Senator.
Senator Gorton.

STATEMENT OF HON. SLADE GORTON, A U.S. SENATOR FROM THE STATE OF WASHINGTON

Senator GORTON. Mr. Chairman, first I would like to ask unanimous consent that my written statement be included in the record. I would prefer to talk to you directly and not reading from it on an issue on which I feel so strongly. I regret that I am going to have to begin, in spite of our close friendship and association and your chairmanship of the Budget Committee on which I serve, by correcting one of your initial statements.

The Senate Committee on Energy and Natural Resources does not have exclusive jurisdiction over the bill which became the Nuclear Waste Policy Act of 1982. Much of the work was done in the Committee on Environment and Public Works of which I was a member. In fact, the provisions for the second site selection resulted from the action of that committee and not of this one and were first suggested in the hearing which I conducted at Hanford in the State of Washington.

As a member of the Conference Committee on the legislation which led to that bill, as I suspect my esteemed colleague from Texas was as well, I think I can assure the chairman of this subcommittee that without that there would have been no bill. The conference committee took place very, very late in the session in 1982, at the time at which in the Senate any serious objection could have prevented the passage of the bill at all, and it was because no single State was going to end up as the sole repository. It was because the second site selection was an absolute integral and mandatory part of the bill that the entire bill passed and became law at all. And as a consequence, I feel particularly keenly about that subject and about the arbitrary and unjustified and, I believe, illegal decision on the part of the Department of Energy not to go forward.

In addition, with respect to the State of Washington, there are serious questions about the Department's environmental assessment data, its ranking in the decisionmaking process, and the fact that it ignored the advice of outside organizations in coming up with the criteria and establishing the criteria.

Now my colleague, Senator Evans, pointed out that from the beginning of this process that he has taken the view that this nuclear waste exists in fact and that some method of disposal has got to be determined. I am convinced that the 1982 act sets up a set of objective criteria by which that decision can and should be made. And so neither of us, nor the Governor from whom you are going to hear, took from the beginning the view not us, under any circumstances, that would we be entirely obstructionists.

And at this point, along with the States of Nevada and Texas, it seems to have been that attitude that we had a serious problem which should be solved which gave the signal to the Department of Energy that it could simply pick our States, whether it did so objectively or not, and that it could abandon the selection criteria for a second site. In my opinion, that renders invalid not just from the

point of view of the Congress and our intentions in passing this legislation, but from the point of view of the law itself, the criteria which have been adopted by the Department of Energy in reaching its decision to this point.

In that connection I clearly associate myself with the remarks of both Senator Laxalt and Senator Bentsen. What we have here is not so much a defective statutory procedure as a totally and profoundly defective administration of that statute on the part of the Department of Energy.

I would also associate myself with the remarks of my distinguished colleague from Texas and Senator Evans, as well, in stating that very likely by the time we finish this process, we will determine that none of these three sites or for that matter the sites which have now been relieved of consideration in the second round are appropriate and that either a completely different method of permanent storage or more likely a delaying action, use of monitored retrievable storage for a period of 50 years or so while we learn more about this subject may be a better solution than any of those proposed to this point.

In any event, Mr. Chairman, I commend to you with great fervor the testimony which you will hear from Governor Gardner and, for that matter, from Governor Bryan, whom I have known for many years since we were attorneys general together. Each of them has been on the front line in this connection. Each of them has attempted to cooperate with the Department of Energy. Each of them had his State's legitimate interest ignored by the Department of Energy in the selection process.

I, for one, do not believe that even if there is no change on the part of this Congress that either the deadlines or the decisions contemplated in the act are going to be met by reason of the Department of Energy's willfully ignoring both the process for the selection of these three sites and the fact that a second site, a division of responsibility and of concern was clearly and explicitly contemplated by the Members who participated in writing this legislation and that clearly were an integral part of the legal requirements of the act itself.

[The prepared statement of Senator Gorton follows:]

SENATOR SLADE GORTON

TESTIMONY BEFORE THE SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

JUNE 16, 1986

MR. CHAIRMAN, MEMBERS OF THE SUBCOMMITTEE, I APPRECIATE THIS OPPORTUNITY TO TESTIFY ON THE SUBJECT OF HIGH LEVEL RADIOACTIVE WASTE REPOSITORIES, AND I COMMEND YOU FOR HOLDING A HEARING ON THIS IMPORTANT ISSUE.

AS A MEMBER OF THE ENVIRONMENT AND PUBLIC WORKS COMMITTEE DURING THE 97TH CONGRESS, I WAS DEEPLY INVOLVED IN DEVELOPING WHAT IS NOW PUBLIC LAW 97-425, THE NUCLEAR WASTE POLICY ACT OF 1982. THE FUNDAMENTAL PURPOSES OF THE ACT WERE TO ESTABLISH A FEDERAL POLICY, INITIATE A PROGRAM, AND ESTABLISH A NATIONAL SCHEDULE FOR THE DISPOSAL OF COMMERCIAL HIGH LEVEL RADIOACTIVE WASTE AND SPENT NUCLEAR FUEL.

IT WAS APPARENT IN 1982 THAT THE AMERICAN PUBLIC LACKED CONFIDENCE IN THE FEDERAL GOVERNMENT'S ABILITY TO MANAGE HIGH LEVEL NUCLEAR WASTE. OUR CITIZENS WERE CONCERNED THAT THE GOVERNMENT COULD NOT OR WOULD NOT SAFELY AND EFFICIENTLY HANDLE THESE WASTES, AND THAT MANAGEMENT WOULD NOT BE AT A RATE AND SCALE PROPORTIONATE TO PROJECTED LEVELS OF NUCLEAR WASTE GENERATION. THE DEEPEST AND MOST CONSUMING DOUBTS DID

NOT CENTER AROUND TECHNOLOGY FOR DISPOSAL, BUT RATHER ON THE INSTITUTIONAL CAPACITY OF THE FEDERAL GOVERNMENT TO IMPARTIALLY CARRY OUT THE DIFFICULT AND SUSTAINED EFFORT REQUIRED TO BOTH BUILD AND OPERATE A DISPOSAL SYSTEM.

CONGRESS DESIGNED THE NUCLEAR WASTE POLICY ACT TO RESOLVE THE PUBLIC AND THE NUCLEAR INDUSTRIES' UNCERTAINTIES OVER WHETHER THE FEDERAL GOVERNMENT COULD FINALLY AND SAFELY DISPOSE OF HIGH LEVEL NUCLEAR WASTE. THE DEPARTMENT OF ENERGY'S RECENT ACTIONS, HOWEVER, HAVE UNDERMINED THE CREDIBILITY OF THE ACT AND CAUSED A SEVERE EROSION OF PUBLIC CONFIDENCE IN THE FEDERAL GOVERNMENT'S NUCLEAR WASTE MANAGEMENT EFFORT.

THE SECRETARY OF ENERGY HAS RECOMMENDED 3 SITES FOR CHARACTERIZATION AND HAS ANNOUNCED THAT FURTHER CONSIDERATION OF POSSIBLE SECONDARY REPOSITORY SITES IN THE CENTRAL AND EASTERN UNITED STATES WILL BE INDEFINITELY POSTPONED. THESE ANNOUNCEMENTS HAVE THE POTENTIAL OF JEOPARDIZING BOTH THE SAFETY AND EQUITY OF NUCLEAR WASTE SITING.

WITH RESPECT TO THE DEPARTMENT'S SELECTION OF THE HANFORD SITE IN WASHINGTON STATE, SERIOUS QUESTIONS HAVE BEEN RAISED ABOUT THE ADEQUACY OF THE DEPARTMENT'S ENVIRONMENTAL ASSESSMENT DATA, ITS RANKING AND DECISION MAKING PROCESS, AND THE EXTENT TO WHICH THE DEPARTMENT ALLOWED FOR CONSULTATION AND COOPERATION WITH AFFECTED STATES AND INDIAN TRIBES. THE GOVERNOR OF WASHINGTON STATE, BOOTH GARDNER, WILL BE TESTIFYING BEFORE YOU

TODAY WITH GREATER PARTICULARITY REGARDING THE DEPARTMENT'S ACTIONS AS THEY RELATE SPECIFICALLY TO THE HANFORD SITE. MY REMARKS WILL FOCUS, INSTEAD, ON THE DEPARTMENT'S UNILATERAL DECISION TO SUSPEND THE SECOND REPOSITORY SITING PROGRAM.

THE DEPARTMENT'S INDEFINITE POSTPONEMENT OF SITE-SPECIFIC WORK FOR A SECOND REPOSITORY VIOLATES THE INTENT AND LETTER OF THE LAW. THE REQUIREMENT TO PROCEED WITH THE SITING OF A SECOND REPOSITORY IS FIRMLY ESTABLISHED THROUGHOUT THE ACT. THIS MANDATE ALSO IS EVIDENT IN THE COMMITTEE REPORT, HEARING RECORDS AND SENATE FLOOR DEBATE. TESTIMONY ELICITED AT A HEARING AT HANFORD IN WASHINGTON STATE SUGGESTED THE AMENDMENT REQUIRING A SECOND REPOSITORY AND ESTABLISHING A 70,000 METRIC TON LIMITATION ON A FIRST REPOSITORY. THE AMENDMENT WAS INCORPORATED INTO THE LEGISLATION BEFORE IT WAS REPORTED BY THE ENVIRONMENT AND PUBLIC WORKS COMMITTEE AND SUBSEQUENTLY WAS INCORPORATED IN THE ACT.

SECTION 112 OF THE NUCLEAR WASTE POLICY ACT REQUIRES THE SECRETARY TO RECOMMEND TO THE PRESIDENT, NOT LATER THAN JULY 1, 1989, THREE SITES THAT THE SECRETARY DETERMINES ARE SUITABLE FOR SITE CHARACTERIZATION FOR SELECTION OF THE SECOND REPOSITORY. SECTION 114 OF THE ACT REQUIRES THE PRESIDENT, NOT LATER THAN MARCH 31, 1990, TO RECOMMEND TO THE CONGRESS ONE OF THE THREE SITES CHARACTERIZED THAT THE PRESIDENT

CONSIDERS QUALIFIED FOR A CONSTRUCTION AUTHORIZATION FOR A SECOND REPOSITORY.

THE DEPARTMENT OF ENERGY HAS NEITHER THE RESPONSIBILITY NOR THE AUTHORITY TO DECIDE WHETHER OR NOT TO PROCEED WITH THE SELECTION OF A SECOND REPOSITORY. AS ONE OF THE SENATORS INVOLVED IN DRAFTING THE ACT, I CAN ATTEST TO THE FACT THAT IT WAS CAREFULLY STRUCTURED TO ENSURE THAT ALL NECESSARY INFORMATION WILL BE AVAILABLE TO CONGRESS -- INCLUDING THE EXTENSIVE INFORMATION THAT WILL BE DEVELOPED THROUGH THE SECOND REPOSITORY PROGRAM -- WHEN IT IS TIME TO DECIDE WHETHER OR NOT TO AUTHORIZE CONSTRUCTION OF A SECOND REPOSITORY. I WANT TO EMPHASIZE THAT THE ELEMENTS OF THE ACT ARE INSEPARABLE. THE SITING OF A SECOND REPOSITORY IS A KEY ELEMENT THAT CAN NOT BE REMOVED WITHOUT JEOPARDIZING THE ENTIRE ACT.

THE SECRETARY OF ENERGY STATED THAT SEVERAL FACTORS LED TO HIS DECISION TO POSTPONE SITING OF THE SECOND REPOSITORY. HIS REASONS INCLUDE THE FAVORABLE PROGRESS ON SITING THE FIRST REPOSITORY, THE PROMISING PROSPECTS FOR THE DEVELOPMENT OF THE MONITORED RETRIEVABLE STORAGE FACILITY, AND LOWER WASTE GENERATION PROJECTIONS. THE DEPARTMENT OF ENERGY'S REPOSITORY SITE SELECTION PROGRAM IS BEING CHALLENGED BY SEVERAL STATES, AND THE COURTS HAVE BEEN REQUESTED TO ENJOIN THE DEPARTMENT FROM PROCEEDING WITH FURTHER IMPLEMENTATION OF THE ACT. IN ADDITION, DUE TO SERIOUS DEFICIENCIES IN QUALITY

ASSURANCE, THE NUCLEAR REGULATORY COMMISSION HAS ISSUED STOP-WORK ORDERS AT THE HANFORD AND YUCCA MOUNTAIN SITES. THE SECRETARY'S OPTIMISTIC VIEW OF THE FIRST REPOSITORY'S "PROGRESS" IS QUESTIONABLE AT BEST. I ALSO QUESTION THE SECRETARY'S CONFIDENCE IN THE EXPEDITIOUS DEVELOPMENT OF THE MONITORED RETRIEVABLE STORAGE FACILITY, SINCE IT TOO IS THE SUBJECT OF A LAWSUIT.

IT IS IMPORTANT TO RECOGNIZE THAT THE ACT'S SCHEDULE FOR THE TECHNICAL AND REGULATORY STEPS INVOLVED IN MOVING A FIRST CANDIDATE REPOSITORY SITE THROUGH THE LICENSING PROCESS WILL NOT NECESSARILY GUARANTEE THAT AN OPERATING REPOSITORY WILL IN FACT BE AVAILABLE AT THE END OF THE PROCESS. CHARACTERIZATION OF SITES FOR A SECOND REPOSITORY WOULD FURTHER REDUCE THE RISK OF LICENSING REJECTION AND ENSURE THAT BACKUPS ARE READILY AVAILABLE IF THE FIRST SITES CONSIDERED PROVE TO BE UNACCEPTABLE. THERE ARE ADDITIONAL POTENTIAL ADVANTAGES OF AN EAST-WEST APPROACH TO REPOSITORY SITING. TWO REPOSITORIES WOULD BE MORE EQUITABLE, BOTH BECAUSE THE REPOSITORIES WOULD BE LOCATED NEARER TO THE SOURCE OF WASTE GENERATION AND BECAUSE FEWER COMMUNITIES WOULD BE AFFECTED BY TRANSPORTATION. TWO REPOSITORIES COULD BE LESS VULNERABLE TO THE EFFECTS OF ACCIDENTS OR OTHER DELAYS THAN WOULD ONE REPOSITORY. REQUIRING THE SITING OF TWO REPOSITORIES COULD REDUCE THE POTENTIAL POLITICAL COSTS OF DELAYS OR PROBLEMS THAT ARE ASSOCIATED WITH THE ALL-THE-EGGS-IN-ONE-BASKET FOCUS OF A SINGLE SITE. AND

FINALLY, TWO REPOSITORIES COULD SUBSTANTIALLY REDUCE TRANSPORTATION COSTS. CLEARLY THE NEED FOR CHARACTERIZATION OF SITES FOR A SECOND REPOSITORY IS BASED ON MORE THAN POLITICAL EXPEDIENCY.

I WANT TO EMPHASIZE, THOUGH, THAT THE REQUIREMENTS AND SCHEDULES ESTABLISHED BY THE ACT FORM INTERDEPENDENT AND MUTUALLY SUPPORTIVE ELEMENTS. TAKEN TOGETHER, THESE ELEMENTS FORM THE BASIS FOR THE BROAD AND STABLE CONSENSUS NEEDED TO MOVE FORWARD WITH THE JOB OF NUCLEAR WASTE MANAGEMENT. THE ACT IS AN INTEGRATED POLICY THAT IS CAPABLE OF SECURING THE CREDIBILITY, STABILITY, AND BROAD SUPPORT THAT ARE THE ESSENTIAL INGREDIENTS FOR A SUCCESSFUL NUCLEAR WASTE MANAGEMENT POLICY. THE TECHNICAL AND INSTITUTIONAL ELEMENTS OF THE ACT ARE NOT ONLY MUTUALLY SUPPORTIVE -- THEY ARE INSEPARABLE.

I URGE THE SUBCOMMITTEE TO TAKE THE NECESSARY STEPS TO FORCE THE DEPARTMENT OF ENERGY TO COMPLY WITH THE NUCLEAR WASTE POLICY ACT OF 1982. THE ACT ESTABLISHED A REASONABLE, BALANCED PROCESS FOR THE SITING OF TWO HIGH LEVEL NUCLEAR WASTE REPOSITORIES THAT, IF FOLLOWED, SHOULD RESULT IN TECHNICALLY AND SCIENTIFICALLY VALID DECISIONS. IF THE DEPARTMENT INSISTS ON DISREGARDING THE PROCESS ESTABLISHED BY THE ACT THEN, AT THE VERY LEAST, THE SITE SELECTION PROCESS FOR THE FIRST REPOSITORY SHOULD BE RE-OPENED. THE DEPARTMENT SHOULD CONDUCT A NATIONWIDE SEARCH WHICH CULMINATES WITH THE SELECTION OF A SINGLE SITE.

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IN ADDITION, I URGE THE SUBCOMMITTEE TO ENDORSE A COMPLETE, INDEPENDENT REVIEW OF THE DEPARTMENT'S SITE SELECTION PROCESS FOR THE FIRST REPOSITORY. IN THE NATIONAL ACADEMY OF SCIENCES' REVIEW OF THE METHODOLOGY THE DEPARTMENT USED TO EVALUATE SITES, THE ACADEMY STRONGLY CRITICIZED THE DEPARTMENT FOR DISREGARDING THE ACADEMY'S ADVICE TO INVOLVE OUTSIDE GROUPS OF EXPERTS IN THE SITE-RANKING PROCESS. IN MY VIEW, THIS IS SOUND ADVICE THAT SHOULD BE EXPANDED UPON AND IMPLEMENTED. I STRONGLY URGE THE SUBCOMMITTEE TO ENDORSE AN INDEPENDENT REVIEW OF ALL ELEMENTS OF THE DEPARTMENT'S PROCESS, INCLUDING ITS RANKINGS, DECISION PROCESS, AND SITE-SPECIFIC DATA. I THINK THIS IS ESSENTIAL TO RESTORE CREDIBILITY TO THE SITE SELECTION PROCESS.

Senator DOMENICI. Thank you very much, Senator Gorton.

In my remarks, if I left the impression that this committee was the sole writer of the bill, I was in error. There was no conference. However, as I recall——

Senator GORTON. An informal conference, I guess.

Senator DOMENICI. And as I recall, since I served on both committees, you are correct. The Environment and Public Works Committee had concurrent jurisdiction. The whole idea of a second site selection process was a creature of the Environment and Public Works Committee, basically initiated by the distinguished senior Senator from Washington. It was yours. I just recall that in the waning days of that lame duck session, there were many informal meetings held by many Senators—Senator McClure, as chairman of this committee; and Senator Stafford, as chairman of the Environment and Public Works Committee.

Senator GORTON. Well, in fact, we had Congressman Dingell and the House people with us on that as you will remember, Mr. Chairman. And you are right; we came essentially to unanimous consent over what ought to be included in the bill and could pass both Houses at that late date.

Senator DOMENICI. That is correct. I thank the Senator for his comments. Now I might ask the Senators—the next witnesses will be the two Governors. Do we have any question?

Senator WARNER. Mr. Chairman, could we ask of our distinguished colleagues a question?

Senator DOMENICI. Indeed.

Senator WARNER. In the course of his opening statements, one of our colleagues said leadership should be replaced, which indicates that perhaps leadership in the Department of Energy had acted in the manner inconsistent with the law, and I think in both of your statements you questioned whether or not the Secretary—if I took notes correctly, Senator Bentsen—had the discretionary power not to go forward with the second site selection. I have got the act before me and I presume that you have had the opportunity to study it. It seems to me the act authorizes but one repository with limited capacity but does not itself authorize a second repository.

Now do you agree or disagree with that?

Senator BENTSEN. No, I disagree with that. I think the only difference that you have there is on the second repository, that it requires the construction authorization by the Congress. But he must go through the process of certifying the site.

Senator WARNER. Well, the act——

Senator BENTSEN. You have the additional thing to be done by the Congress on that second site in the way of coming back with the authorization by the Congress of construction. As I recall, that is the way we structured that.

Senator WARNER. Well, the funding mechanism requires congressional authorization to use this special fund. And I think one of his bases for dropping the second site was that he might have been using incorrectly moneys which had not been authorized and appropriated by the Congress to pursue the site selection of the second.

Senator BENTSEN. No. As I understand it—and I would have to go back and check it—but as I understood it, he was directly authorized to go ahead in the pursuit of the second site.

Senator WARNER. In the site selection but not the construction.

Senator BENTSEN. But on the construction, that part of it, he is nowhere near that. Then you have to come back for the authorization of the Congress.

Senator GORTON. May I interrupt?

I have here with me an attorney who was on my staff on the Environment and Public Works on my behalf at the time. And he informs me, I think quite correctly, that the distinction is between the authority to locate which is in the law and is what Senator Bentsen and I have been speaking to and the authority, actually, to develop the second site which would require a return to Congress for further authorization.

Senator WARNER Would the both of you feel that the projected accumulated waste justifies this country going ahead with extraordinary expenditure associated with the second site?

Senator BENTSEN. I certainly do. You are talking about an estimate of 140,000 metric tons and they have cut that back only to 130,000, less than a 10-percent curtailment,—and I do not think they have given full consideration to the increase that you are going to see on the military side from the military buildup. And therefore to cut it back to one that says you would only have 70,000 metric tons obviously will not be adequate.

Senator WARNER. I thank my colleagues very much. I thought they very forcefully and fairly presented their views which will be taken into consideration, I am sure, by the chairman and the members of this committee.

Senator DOMENICI. Anything further by the members of the committee to be directed at the Senators who are at the table?

[No response.]

Senator DOMENICI. We thank you both for appearing and thank you very much for your testimony.

Senator GORTON. Mr. Chairman, I understand that the two Governors are meeting with the Secretary right now and will be with you in just a moment.

Senator DOMENICI. Our next witnesses would be the Governors, to be followed by the Secretary. I understand they need a couple more minutes. I wish somebody would inform them. We will stand in recess for 5 minutes and then we expect the two Governors to appear.

[Recess.]

Senator DOMENICI. Could we have order, please.

Members of the subcommittee here are present. I understand that because of time constraints that the Governors have no objection to us departing from our schedule, if it meets the requirements of the committee that we hear from the Secretary of Energy first, to be followed by the two Governors who are here.

Without objection, we will go that. Mr. Secretary, We welcome you.

STATEMENT OF HON. JOHN S. HERRINGTON, SECRETARY, DEPARTMENT OF ENERGY; ACCOMPANIED BY BEN RUSCHE, DIRECTOR, OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT; AND ERIC FYGI, DEPUTY GENERAL COUNSEL

Senator DOMENICI. Mr. Secretary, would you please introduce the members of your staff who are in attendance with you.

Secretary HERRINGTON. Thank you, Mr. Chairman. On my left is Ben Rusche, who is Director of the Office of Civilian Radioactive Waste Management whose responsibility as established by the act is to implement the provisions of the act and manage the related activities. On my right is Eric Fygi, who is Deputy General Counsel, Department of Energy, to address potential legal issues that we may have during the hearing.

Senator DOMENICI. All right. You may proceed. I assume the Senators are at liberty to inquire of the Secretary or of counsel or Mr. Ben Rusche. Would you please proceed, Mr. Secretary.

Secretary HERRINGTON. Thank you, Mr Chairman. First I would like to begin by complimenting the leadership role this country has taken in solving the problem of determining how, when, and by what means these wastes will be permanently disposed of for the protection of the public health, safety, and the environment.

Since becoming Secretary of Energy, I have continued to place high priority on public health, safety, and the environment in correcting the ills of the past in this regard. The crafters of the Nuclear Waste Policy Act have provided this country with the opportunity to protect the future.

For many years prior to the passage of this act, scientists and public policymakers and interested citizens strived to develop a national policy to address the problem of what to do with the accumulation of nuclear waste.

Beginning in 1957, when the National Academy of Sciences concluded that geologic disposal would be the most desirable method for permanent disposal, many alternatives have been considered. Since then, studies have been conducted in different geologic media; national surveys of geologic formations have been conducted; and voluminous data have been collected, analyzed, and compared.

Members of this committee and subcommittee have continued to play a major and responsible role. The act is, in large part, the result of S. 1662, introduced in September 1981 by Committee Chairman McClure and you, Mr. Chairman, and Senators Stafford, Simpson, and Symms.

One of the most important things that I have kept in mind during this process was that in October 1981, President Reagan issued a nuclear policy statement announcing several policy initiatives including instructing the Secretary of Energy, working closely with industry and State government, to proceed swiftly toward deployment of a means of storing and disposing of commercial and high-level radioactive waste. The President recognized that we must take steps now to accomplish this objective and to demonstrate to the public that problems associated with management of nuclear waste can be resolved.

Passage of the act was the first step in accomplishing this objective, and now we are well along the way in working with affected and interested parties to demonstrate to the public that problems associated with the management of nuclear waste can be resolved.

Safe, permanent disposal of the waste is required to protect the people and the environment. Nuclear power now provides over 15 percent of the Nation's electricity. Over 12,000 metric tons of spent fuel has accumulated thus far from nuclear power generation.

Thirty years of scientific study have determined that permanent geological disposal can be technically and economically feasible. In spite of this, the crafters of the act—many of you—recognized clearly that the task to implement a disposal system would not be an easy one.

The act authorizes one repository, with limited capacity, but does not itself authorize a second repository. The act requires the preparation of a proposal to Congress on the need for and the feasibility of one or more monitored retrievable storage facilities, but does not authorize construction of such a facility.

The act sets schedules for meeting certain milestones, but it requires extensive involvement and participation by affected and interested parties. The act establishes the funding mechanism, but it requires congressional appropriation and authorization to use the special fund.

I mention these few major points of the act not to fault the provisions but to highlight the appropriateness of the role that Congress has reserved for itself in this major national program. The act, while explicit, still provides reasonable flexibility through both the interactive process specified and implied, and the mechanisms provided for working with the Congress and keeping the Congress informed of progress and problems in implementing it.

On May 28, 1986, I announced major progress and decisions which have been made. I announced that the President approved my recommendation that sites in Nevada, Texas, and Washington be characterized as candidates for the first repository. This decision represented the achievement of a major milestone in this program. It is the culmination of years of work developing siting guidelines, gathering and analyzing data from site studies, scientific review, participation by States, Indian tribes, and public review and comment.

The achievement of this milestone provides clear evidence of progress toward the first repository. The related environmental assessments which were issued at the time of our announcement demonstrated the high probability that any of the five sites nominated will more than adequately satisfy the environmental standards for geologic disposal developed by the Environmental Protection Agency.

Furthermore, as previously stated publicly and before congressional hearings, this achievement, along with other factors, offers an opportunity for us to reassess the pace of other activities, including studies in other rock formations not previously studied. In this regard, I also announced on May 28 that we have postponed indefinitely site-specific work for a second repository because of the progress in siting the first repository and the uncertainty of when a second repository might be needed.

There are many factors which relate to the need and timing of the second repository and before making this decision, Mr. Rusche and I had extensive discussions concerning the options.

Three of the more significant factors which made postponement of site-specific work on a second repository most appropriate are the projected quantities of waste which will require disposal, the date when the statutory limit of 70,000 metric ton trigger point provided in the act will be reached in the first repository, and the time required to site and construct the second repository.

With respect to the quantities of waste requiring disposal, the projections are uncertain and have been declining in recent years. For example, when this act was passed, projections were that by the year 2000 there would be approximately 65,000 metric tons of spent fuel. Our most recent projections for the year 2000 indicate that there will be around 40,000 metric tons.

Through the Energy Information Administration, DOE annually develops projections of spent fuel. By the mid-1990's, DOE will have a far better understanding of what the projections will be for both the civilian and defense waste into the 21st century.

The 70,000 metric ton statutory limit for the first repository will provide disposal capacity well into the 21st century. Based on a startup date of the first repository in 1998 and current design receipt rates of approximately 3,000 metric tons per year, the first repository, from our analysis, would not reach the statutory limit until approximately the year 2020.

The time when a decision would need to be made on when and whether site-specific investigation should proceed toward selection of a second repository is dependent on those projections, the startup date of the first repository and the fill rate. The very earliest such siting activity would need to be done is the mid-1990's.

Keeping these factors in mind, it is not prudent, in my estimation, to spend hundreds of millions of dollars on site investigation and identification now. It logically makes much more management sense to postpone indefinitely site-specific work related to a second repository.

Second, repository activities can be scaled at this time to address technical issues. We will continue international cooperative activities to assess available research on crystalline rocks. In addition to the international cooperation concerning crystalline studies, we will continue to share and exchange information on studies and other geologic media which could possibly permit later consideration as a host medium for a second repository, if and when it is needed.

In summary, we believe these actions regarding important steps in the first repository siting process and in restructuring the second repository considerations and activities are in the best interest of the American people and represent the most effective course for implementing the Nuclear Waste Policy Act.

We believe these decisions will permit us to have a second repository operational before the first repository exceeds the statutory, though nontechnical, 70,000 metric ton disposal capacity and have restructured the program to allow consideration to be based on that need.

Our priorities in implementing the act are: First, to site, construct, and put into operation the first geologic repository and the associated transportation systems, which in itself will be a tremendous task.

Second, to transmit to Congress a monitored retrievable storage proposal because of its potential for improving the overall disposal system.

Third, to carry out necessary activities regarding consideration of a second repository so that when and if in the future we need to request congressional authorization to proceed with construction, we will have a firm base upon which to make that request.

I appreciate this opportunity to discuss these issues with you. Again, I would like to comment that the Nuclear Waste Policy Act, while not precise in all respects, provides the technical requirements, directions, mechanisms, and flexibilities for solving the Nation's nuclear waste disposal problem. One of the most important mechanisms provided by the act is that of interacting with the Congress and with the public. Congress took a major step for this country by collectively crafting this law.

Thank you for your consideration. I would be pleased to answer questions at this time, Mr. Chairman.

[The prepared statement of Secretary Herrington follows:]

STATEMENT BY

JOHN S. HERRINGTON

SECRETARY OF ENERGY

U.S. DEPARTMENT OF ENERGY

BEFORE THE

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

JUNE 16, 1986

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to appear before you today to discuss recent announcements made in implementing the Nuclear Waste Policy Act of 1982 (the Act) and specifically site selection activities related to a second repository for spent fuel and high-level radioactive waste. I have with me Ben Rusche, Director of the Office of Civilian Radioactive Waste Management, whose responsibility, as established by the Act, is to implement the provisions of the Act and manage the related activities, and Eric Fygi, Deputy General Counsel.

First, I would like to begin by commenting on the leadership role this country has taken in solving the problem of determining how, when and by what means these wastes will be permanently disposed of for the protection of the public health, safety and the environment. Since becoming Secretary of Energy, I have continued to place high priority on public health, safety and the environment and correcting the ills of the past in this regard. The crafters of the Nuclear Waste Policy Act have provided this country with the opportunity to protect the future.

For many years prior to passage of the Act scientists, public policymakers and interested public citizens strived to develop a national policy to address the problem of what to do with the accumulation of nuclear waste.

Beginning in 1957, when the National Academy of Sciences concluded that geologic disposal would be the most desirable method for permanent disposal, many alternatives have been considered. Since then, studies have been conducted in different geologic media, national surveys of geologic formations have been conducted and voluminous data have been collected, analyzed and compared.

Members of this Committee and Subcommittee have continued to play a major and responsible role. The Act is in large part the result of S. 1662 introduced in September 1981 by the Committee Chairman, Senator McClure, you, Mr. Chairman, and Senators Stafford, Simpson and Symms.

In October 1981, the President issued a Nuclear Policy Statement announcing several policy initiatives including,

> "...instructing the Secretary of Energy, working closely with industry and state government, to proceed swiftly toward deployment of a means of storing and disposing of commercial high-level radioactive waste."

The President recognized, "We must take steps now to accomplish this objective and demonstrate to the public that problems associated with management of nuclear waste can be resolved."

Passage of the Act was the first step in accomplishing this objective and now we are well along the way in working with affected and interested parties to "demonstrate to the public that problems associated with the management of nuclear waste can be resolved."

Safe, permanent disposal of the waste is required to protect people and the environment. Nuclear power now provides over 15 percent of the Nation's electricity. Over 12,000 metric tons of spent fuel has accumulated thus far from nuclear power generation.

Thirty years of scientific study have determined that permanent, geologic disposal can be technically and economically feasible. In spite of this, the crafters of the Act -- many of you -- recognized clearly that the task to implement a disposal system would not be easy.

The Act authorizes one repository -- with limited capacity -- but does not itself authorize a second repository. The Act requires the preparation of a proposal to Congress on the need for and feasibility of one or more Monitored Retrievable Storage facilities, but does not authorize construction of such a facility. The Act sets schedules for meeting certain milestones, but requires extensive involvement and participation by affected and interested parties. The Act establishes a funding mechanism, but requires Congressional "appropriation and authorization" to use the special fund.

I mention these few major points in the Act not to fault the provisions, but to highlight the appropriateness of the role Congress has reserved for itself in this major national program. The Act, while explicit, still provides reasonable flexibility through both the interactive processes specified and implied and the mechanisms provided for working with the Congress and keeping the Congress informed of progress and problems in implementing it.

On May 28, 1986, I announced major progress and decisions which have been made. I announced that the President approved my recommendation that sites in Nevada, Texas and Washington be characterized as candidates for the first repository. This decision represented the achievement of a major milestone in the program. It is the culmination of years of work developing siting guidelines, gathering and analyzing data from site studies, scientific review, participation by States, Indian Tribes and public review and comment.

The achievement of this milestone provides clear evidence of progress toward the first repository. The related environmental assessments which were issued at the time of our announcement demonstrated the high probability that any of the five sites nominated will more than adequately satisfy the environmental standards for geologic disposal developed by the Environmental Protection Agency.

Furthermore, as previously stated publicly and before Congressional hearings, this achievement along with other factors, offers an opportunity for us to reassess the pace of other activities, including studies in other rock formations not previously studied. In this regard, I also announced on May 28 that we have postponed indefinitely site-specific work for a second repository because of the progress in siting the first repository and the uncertainty of when a second repository might be needed.

There are many factors which relate to the need and timing of a second repository and before making this decision, Mr. Rusche and I had extensive discussions concerning the options.

Three of the more significant factors which made postponement of site-specific work on a second repository most appropriate are the projected quantities of waste which will require disposal, the date when the statutory limit of 70,000 metric ton trigger point provided in the Act will be reached in the first repository and the time required to site and construct the second repository.

With respect to the quantities of waste requiring disposal, the projections are uncertain and have been declining in recent years. For example, when the Act was passed, projections were that by the year 2000 there would be approximately 65,000 metric tons of spent fuel. Our most recent projections for the year 2000 indicate that there will be around 40,000 metric tons.

Through the Energy Information Administration, DOE annually develops projections of spent fuel. By the mid-1990s, DOE will have a far better understanding of what the projections will be for both the civilian and defense waste into the 21st century.

The 70,000 metric ton statutory limit for the first repository will provide disposal capacity well into the 21st century. Based on a start-up date of the first repository in 1998 and current design receipt rates of approximately 3,000 metric tons per year, the first repository would not reach the statutory limit until approximately the year 2020.

The time when a decision would need to be made on when and whether site-specific investigation should proceed toward selection of a second repository, is dependent on the projections, the start-up date of the first repository and the "fill" rate. The very earliest such siting activity would need to be done is the mid-1990s.

Keeping these factors in mind, it is not prudent to spend hundreds of millions of dollars on site investigation and identification now. It logically makes much more management sense to postpone indefinitely site-specific work related to a second repository.

Second repository activities will be restructured to address technical issues. We will continue international cooperative activities to assess available research on crystalline rocks. In addition to the international cooperation concerning crystalline studies, we will continue to share and exchange information on studies in other geologic media which could possibly permit later consideration as a host medium for a second repository, if and when needed.

In summary, we believe these actions regarding important steps in the first repository siting process and in restructuring second repository considerations and activities are in the best interest of the American people and represent the most effective course for implementing the Nuclear Waste Policy Act. We believe these decisions will permit us to have a second repository operational before the first repository exceeds the statutory, though non-technical, 70,000 metric ton disposal capacity and have restructured the program to allow consideration to be based on need.

Our priorities in implementing the Act are:

First: To site, construct and put into operation the first geologic repository and the associated transportation systems;

Second: To transmit to Congress, a Monitored Retrievable Storage proposal because of its potential for improving the overall disposal system; and,

Third: To carry out necessary activities regarding consideration of a second repository so that when and if in the future we need to request Congressional authorization to proceed with construction, we will have a firm basis upon which to make that request.

I appreciate this opportunity to discuss these issues with you. Again, I would like to comment that the Nuclear Waste Policy Act, while not precise in all respects, provides the technical requirements, directions, mechanisms and flexibilities for solving the nation's nuclear waste disposal problem. One of the most important mechanisms provided by the Act is that of interacting with the Congress and with the public. Congress took a major step for this country by collectively crafting the law.

I would be happy to try to answer any questions you may have at this time and I would like to rely on Mr. Rusche and Mr. Fygi to assist me in providing details, as required.

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Senator DOMENICI. Thank you very much, Mr. Secretary.

I have some questions, but I will yield to the Senator first.

Senator Warner, would you like to inquire first?

Senator WARNER. I will defer to the Chair.

Senator DOMENICI. I am going to let some Senators do that. So do you want to ask?

Senator WARNER. Earlier testimony, Mr. Secretary, by some of our distinguished colleagues, indicated that there had not been, shall we say, the discussion of the States that they felt the States were entitled to, under the statute. Would you comment on that.

Secretary HERRINGTON. Yes, sir, I would. I think that situation has been brought up many times in many different public meetings. We have gone, in my estimation, to the fullest extent possible to get public input. The thing that I want to emphasize is that that is not over. Now we have picked these 5 sites and three for characterization, that process will continue and will get broader.

The thing we do not want to do is to make these decisions without public input. It is important to know that we have had over 50,000 public comments that we have received and cataloged and worked with, and I want to take this opportunity to thank Mr. Rusche for doing what I think is the hardest job in Government in dealing with that.

Senator WARNER. Mr. Secretary, in other areas of the opening statements by our colleagues, there was a question of several instances raised as to whether or not you had followed the statute.

Now in my working with you over the years, I know you to be a man of impeccable integrity, a lawyer; and how do you read this statute with respect to your responsibility under the second site selection? Is it mandated or is it not mandated?

Secretary HERRINGTON. I think the timing of the second repository is the thing that is open to determination. What I want to stress here is that we have not terminated or completely deleted the second repository. I do not think that would be authorized under the law. What we have done is attempt to manage this program as best we can by putting the decision of the second repository properly where it belongs.

Senator WARNER. And you feel that in view of fiscal constraints on the country as a whole now with the deficit excessively high, that it is not prudent for you or indeed a successive Secretary of Energy in the period of time necessary to develop a second site to expend that amount of money?

Secretary HERRINGTON. It is not only the money, Senator. It is the need.

Senator WARNER. Well, the need dictates the——

Secretary HERRINGTON. The estimates of 40,000 metric tons at this time with about another 12,000 tons in defense waste, tell me that the second repository limit of 70,000 metric tons may not be reached. We have no nuclear power plants being ordered in this country and no increasing waste being generated.

So the question I have to ask is—with a dubious need of a second site that has not been authorized by Congress, do we spend the billion dollars or the hundreds of millions now? And true, it is not government money, but money coming out of the economy. Do we

spend that now when the decision may not have to be made until the mid-1990's? I think that is prudent management.

Senator WARNER. Mr. Secretary, I refer to the testimony of our distinguished colleague from Texas, Mr. Bentsen. On page 2 he states as follows:

The DOE estimates for wastes needing storage have declined, according to the information they have provided me, from 1982 estimates of 140,000 metric tons tc current estimates of 130,000 metric tons, a change of less than 10 percent. And he repeated that.

Then I asked a question. And I have here the statement published December 1985 by the World Nuclear Fuel Site Requirements that shows in the year 2020 without any new orders, it would only be roughly 74,000.

If there were 10 new nuclear plants, it would only go to approximately 87,000. If there were 36 new plants, 106,000. And as you stated, I think there are no new plants on order. So it seems to me that your estimates coincide with the information provided by the Energy Information Administration. I am not sure where my distinguished colleague got his estimate.

Secretary HERRINGTON. I am not either. I would like to ask Mr. Rusche to comment on where our waste figures are, to maybe further expand on them.

Senator FORD. Could I interject here? I think we're leaving out defense waste, are we not?

Secretary HERRINGTON. We figure in addition to the 40, about 12 in defense on top of that, a total of about 52,000 metric tons.

Senator FORD. That will be by the year 2020?

Secretary HERRINGTON. That is what our estimates are.

Senator FORD. Well, I will get into that in a minute.

Secretary HERRINGTON. Yes, sir.

Senator DOMENICI. We are about to hear from Mr. Rusche.

Mr. RUSCHE. Senator, you are reading, I believe, from the EIA World Cycle Requirements of 1985. As the Secretary noted in his testimony, we do utilize this method, this source, as the basis for a range of projections in structuring the time, pace, and schedule of the program. You were correctly reading the numbers. I am not sure where the former Senator extracted his numbers. Perhaps we provided him some numbers that had a particular context. But you correctly provided the numbers.

Senator WARNER. So you do not know what may have been the source of Senator Bentsen's information?

Mr. RUSCHE. I would not be able to say, sir.

Senator WARNER. Mr. Chairman, I wonder if I might just yield for the purpose of courtesy.

Senator DOMENICI. Senator Ford?

Senator FORD. I would like to follow up on what Senator Warner said. We are looking here at the fuel cycle requirements of 1985. And I would like to tie this up in a package, if I could, Mr. Secretary. There are claims that your Department has broken the law and that decisions are not so and so, and you have heard them all.

But I want to look—on page 3 of your statement, you talk about 12,000 metric tons of spent fuel has accumulated thus far from nuclear power generation. We have 12,000 metric tons. Then on page 5 you say that based on the start-up date of the first repository in

1998 and current design receipt rates of approximately 3,000 metric tons per year. Now three times 34 years, if I go to 2020, is about 102,000 metric tons. You already have 12,000 metric tons. That gives you 114,000, and I think you better clear that up a little bit.

And then we add the military onto that; then we really are going well beyond 70,000 metric tons for the first repository by the year 2020. Now am I way off base with these figures? What can be lifted out of your statement and what we already have and what Senator Warner is reading from, then multiply yours by the 34 years.

Secretary HERRINGTON. Yes, sir. If I could ask Mr. Rusche to answer that. I may have left a wrong impression by the phrasing in the statement.

Senator FORD. Those will be the headlines in the morning, that you made a mistake in your calculation.

Mr. RUSCHE. Mr. Chairman, I do not believe there has been a mistake in the calculations. On page 5, the paragraph that you refer to with respect to the 70-000-metric-ton limit, has not to do with the amount of fuel that would then be available but the amount that would be emplaced in a repository. So we must not confuse those two numbers.

What the Secretary was trying to point out was that the time at which the 70,000-ton limit would be reached, which is not based on the amount of fuel present but the amount of fuel to be loaded into the repository at 3,000 tons per year, would be about 25 years. That is the basis for the statement. That does not mean that there may not be more than 70,000 tons of spent fuel in existence. In fact, if you look at the very document that Senator Warner was talking about, the no new order case projects 75,000 metric tons——

Senator FORD. Without military.

Mr. RUSCHE [continuing]. Without military.

Senator FORD. That is right. And that puts you over the first repository.

Mr. RUSCHE. And if those numbers were realized, we would exceed the 70,000-ton limit for the repository.

There are two factors involved in considering when you do that. One is the rate at which you put it in; 3,000 tons per year is now planned. And the second is how much there is there. If there is not more than 70,000 tons there, ever, then you do not exceed it.

On the other hand, if you only put in 3,000 tons a year which is the current design for a single repository, it takes about 23 or 25 years. So both of those factors need to be taken into account in whatever consideration you are making.

Now, have I helped any?

Senator FORD. You have always talked faster than I could listen; but I like it.

Mr. RUSCHE. I am sorry, sir.

Senator FORD. That is all right, Ben.

Are you taking into consideration that when we talk about in our time, that is about the middle of the next century. How many nuclear generating facilities will be built? Are you saying there will not be any? Are you saying that there will be? Or how many do you anticipate being built in our time?

Mr. RUSCHE. We have not attempted to make a judgment but rather to show on the basis of the EIA study what range ought to

be considered in the planning of the program. The no new order case is perhaps the most confident one that requires less extrapolation from a programmatic or predictive standpoint. That is, if no more new plants were built, then the quantity would be small—75,000 metric tons.

On the other hand, if you took the high case, the number might be as high as 126,000 metric tons. And I think we would all agree that that is a very much more speculative number. The pieces of all of this and the basis, I believe, of the Secretary's view was that in either case making a determination about the midnineties would give us plenty of time to have a second repository in place, whichever of these cases obtained, that there is about a 10-year period in which we do not have to proceed in order to make that requirement. And that is the basis—a major basis—for this consideration.

Senator DOMENICI. Would the Senator yield?

Senator FORD. Yes.

Senator DOMENICI. What if none of the three first sites pan out? What do you do then?

Mr. RUSCHE. Well, if none of them pan out by 1991, which is the date by which we should recommend one to the President and it would be the date before which we would have had a second repository available to consider, that is, a crystalline rock project before that time, we would turn to others of the sites that are in the first set.

If you recall, the Secretary nominated five. Any of those five by our current evaluation have the potential for being found suitable. So if you found none of the three suitable, you would probably turn to one of those other two.

Senator DOMENICI. So you do not consider the second round process to be a backup for a first?

Mr. RUSCHE. Well, it could serve so, but it does not have the potential for serving so in the timeframe that we are talking about.

Senator DOMENICI. Thank you, Senator.

Senator FORD. I am a little bit concerned. The timeframe bothers me a little bit. It is a little speculative, I am sure. It is going to be hard to determine about the second repository. When you cancel that, you know, it is going to be hard to make a judgment, I think, when that will come on line. Does the act condition the second repository program from the variables that you justified the first one on?

Secretary HERRINGTON. Senator, I think one point that we need to clear up is that we have not canceled the second repository.

Senator FORD. Just delayed it?

Secretary HERRINGTON. The words I used were postponed indefinitely. And I have been asked by 10 people what that means.

Senator FORD. That means sometime later.

Secretary HERRINGTON. I think it is a mistake to think the second repository is canceled. I think we have a postponement. I think we may or may not need a second repository in this country. The point we are making is I do not think we have to make that decision in 1986, for several reasons, and that is whether we are going to need it. I think that decision may have to be made—we think by the mid-1990's by all the reasonable ways we have looked at this, but I do not think we have to make that decision today.

What we would like to do is put our mission plan in writing and submit it back to Congress for you to look at. And I think that will take place right away.

Senator FORD. Is postpone indefinitely similar to a legislative motion of tabling?

Senator DOMENICI. It might be.

Senator FORD. It might be? OK. Thank you, Mr. Chairman.

Senator DOMENICI. Senator Hecht.

Senator HECHT. Mr. Secretary, your program does not affect the deficit. It is being paid for by people who use electricity for nuclear plants. So, postponing the second repository will not increase the deficit; is this not true?

Secretary HERRINGTON. I can make two points on that, and I have heard this before. People have said to me before, take money out of here and out of there of the Government. Money is money. It is fungible. I do not care where it comes from, out of the economy or somewhere else.

The point is true: These are not appropriated funds. It is money coming out of our private sector that we have to spend on a project that may not be necessary. Point 2: It is subject to Gramm-Rudman, and so it has some consequences.

Senator HECHT. Let me put to rest a rumor.

Does the Department have any plans to allow high-level waste from foreign countries to be put into American waste repository?

Secretary HERRINGTON. No.

Senator HECHT. Which States generate most of the commercial high-level radioactive waste?

Secretary HERRINGTON. I would say, on a broad brush, Eastern States.

Senator HECHT. Do you think it is fair to tell the people of Nevada at the other end of the country from the States that generate most of the high-level waste, that we may have to bear the entire national burden for waste disposal indefinitely, to use the Department's wording?

Secretary HERRINGTON. I think Senator, that we have to rely on the geologic considerations and the scientific data to determine where the first repository should go. We have tried to keep it limited to those factors in carrying out the law.

Senator HECHT. Do you not think the Eastern States, who generate most of the waste, should at least have to face the possibility that they will eventually have to keep their own waste east of the Mississippi River?

Secretary HERRINGTON. This is not an East versus West issue; this is an issue of establishing for the country a first geologic repository in accordance with the law. And I think we are carrying out our obligations as responsibly as we can in the Department.

Senator HECHT. Are you aware that the Yucca Mountain site may pose a security problem for national defense activities taking place at the Nevada test site, and other nearby military facilities?

Secretary HERRINGTON. These and other factors, I think, we need to continue to look at during the characterization process. And you have my commitment that we will be looking at all these factors. Extensive public input is what we are interested in, in this next process, as we move forward.

Senator HECHT. Are you aware, according to the U.S. Geological Survey, the Yucca Mountain site is in an area subject to natural earthquakes?

Secretary HERRINGTON. Yes. The answer is yes on that.

Senator HECHT. Nuclear testing in the Nevada test site produces manmade earthquakes. Is the Department not concerned that these manmade quakes could eventually threaten the ability of the Yucca Mountain site to contain high-level nuclear waste?

Secretary HERRINGTON. We do not feel, based on our analysis to date, that the nuclear testing affects this program in that area.

Senator HECHT. What scientific estimates have been requested for the effect of earthquake activities over the lifetime of the nuclear storage sites, say, 10,000 years?

Secretary HERRINGTON. We have used the USGS predictions on that point.

Senator HECHT. Do you have a study from them?

Mr. RUSCHE. Senator, the survey does not attempt to project precise numbers, but does as a part of its evaluation of the site, look at the stability based on the past and make judgments about the future. And I think there are a number of studies about that.

Senator HECHT. May I request a study of the effects of continuing nuclear testing on the geology of the area?

Mr. RUSCHE. Sure.

Senator HECHT. We will have to have a high priority on research. And if we find that this would not be feasible, then certainly it would be a waste of money to go further taking this into account first; is that not true?

Secretary HERRINGTON. I think that all of these factors have to be looked at; that, plus other factors that have been raised.

Senator HECHT. Mr. Chairman, I would like to come back in the second round of questions. But I do not want to take time from my colleague whose State is also affected. So, may I stop and come back in the second round?

Senator DOMENICI. Indeed. That sounds fair to me.

Senator Evans.

Senator EVANS. Thank you, Senator Domenici. I thank my colleague.

Senator DOMENICI. Senator, before you proceed, may I acknowledge the presence of Senator Humphrey. He is not on the committee; he is welcome to sit here with us. Obviously, he has a genuine interest.

And, Senator, we will, if you desire, permit you to ask some questions. If you don't mind, we will let the panel go through first one round and then we will yield to you, Senator.

Senator EVANS. Thank you, Mr. Chairman.

Mr. Secretary, I suppose I might even agree with you on management in a way that preserves public money, and I certainly would agree with you that money is money, whether it is ratepayers or taxpayers. They are all the same people, essentially.

But I guess I have to start with the act. You are obliged to faithfully execute the constitional laws of the United States when you take your oath. What section of this act governs the determination of site characterization?

Secretary HERRINGTON. I am going to ask the deputy counsel to answer that.

Mr. FYGI. Section 112 is a primary provision that has been referred to already.

Senator EVANS. Would you show me in section 112 where it gives the flexibility to the Department on its own motion to decide that they can postpone indefinitely site characterization of the second repository site?

Mr. FYGI. Well, Senator Evans, like so many legal questions, there is no specific single provision in the statute that says the Department has unilateral flexibility to decide the precise decision that you are directing your attention to today.

But I think it has to be borne in mind that as to the dates that are adverted to in the scheme of the statute, it is very important to bear in mind that in essence what the statute sets in train is a schedule for what is another legislative recommendation, because it cannot be overemphasized that the second repository process is devoted to accumulating information that will enable a rational recommendation to be made for future legislation that would be necessary for the executive to begin constructing a second repository. And that is a crucial distinction in the statutory scheme which otherwise applies more or less similarly between the two programs.

So to be sure that we do not dispute the fact that it is unlikely that we will be able to bring to bear, and that other circumstances are such that it is not prudent to anticipate, making a second repository recommendation in the near future, given what we have learned as of today.

But that is the most important central thing about the statutory scheme. Even in characterization, it is a learning process. And here the Department and the Secretary have made certain decisions, and I believe that in interpreting the lawfulness of those decisions, we must bear in mind the larger aspects of the statutory scheme to which I have adverted, and I anticipate that we will have to do that in defending against the various lawsuits that various States and entities have brought against the Department, some of which bear directly upon the very issue you are now raising. The suits brought by the State of Washington implicate directly this decision.

Senator Evans: Mr. Secretary, do you agree with that? [Laughter.]

Secretary Herrington. Yes, sir.

Senator EVANS. If you could understand it, that is.

Secretary HERRINGTON. Yes.

Senator EVANS. I am glad to get a short answer.

Mr. Counselor, do you believe that argument you just went through will prevail in a court of law?

Mr. FYGI. I anticipate the Government will defend the actions brought against it with some vigor and resolve so that I am reasonably confident that all of these complex decisions—I think the reviewing courts will be struck, given their review of the entire record at the efforts that have gone into making rational, sound decisions throughout the program—even, for example, at the expense of a similar delay that did not prove particularly controversial at the time, at least, in making the first siting decisions in the recom-

mendations. And I think those are the facts that will dominate judicial consideration of these decisions.

Senator EVANS. So you think there is some legal room in the law when it says not later than July 1, 1989, the Secretary shall nominate five sites and goes on to say "shall" about three more times in that same paragraph?

Mr. FYGI. Mr. Chairman, we would not dispute that the statute contemplated that date and that the Congress, when it dealt with all these dates, realized at the time there were ambitious schedules being set forth.

Secretary HERRINGTON. Senator, I want to add one thing. One of the dates in the act on the first site is not quite correct, as it was written. And the second point is we are over a year and a half late in recommending the first site under the statute and we have never had an objection or letter one from any part of Congress. So I think there is precedent for slipping this date under the act, under the intent.

Senator EVANS. I see. And just slide when you wish and not when you don't want to. It sounds to me like Mr. Rusche, every time he comes before this committee says he is crashing ahead with the program. And the basic reason he is crashing ahead is to meet all the deadlines and guidelines, and he keeps repeating that every time he comes here.

Secretary HERRINGTON. Well, I would like him to answer that. [Laughter.]

Mr. RUSCHE. Senator, I have had the opportunity to talk with you a number of times in the committee, and I think in virtually every one of those occasions I have pointed out just the contrary: that you take the siting guidelines, you take the notification of the first repository PAS', you take the development of the environmental assessments, in every one of those cases, except that of the PAS' which we just about met, we have taken consciously and with your awareness times of the order of a year or more to add for public involvement. And we have not crashed ahead.

Senator EVANS. I would suggest, Mr. Rusche, that most of the time on those occasions you have wanted to move ahead and the Congress has required you to take those extra steps over your objections.

Mr. RUSCHE. Sir, I differ with you in the fact that the act says meet these specific dates. And we have, in the light of that, taken additional time both for the involvement of the public and for other Federal agencies like the NRC. And we have told you about it. We told you about it in the Mission Plan and we have told you about it in hearings. Congress has not said one word about it, either in response to the Mission Plan or in these hearings.

Senator EVANS. Then we will have to go back in the record and review what you said.

Mr. RUSCHE. I welcome the opportunity to have perhaps a discussion in a smaller group on that subject.

Senator EVANS. The question of whether or not you may reach 70,000 tons perhaps is a legitimate question, and ought to be brought back to Congress. It seems to me that it is here in Congress, not in your agency, that such a decision ought to be made if, in fact, that is the case.

How does that jibe with the determination that you made in the selection of the first three sites, that one of the important elements was to have a variety of geologic media?

Now let me back off and precede that by some concern I have over the site selection methodology the decisions you made on the first site. Is it true that in the site characterization factors that you ranked both for preclosure and postclosure, the Hanford site generally ended up fifth, time after time after time? I have tried to read carefully that thick book that you sent forward.

Secretary HERRINGTON. The answer to that is no. That is not correct. It is only correct when you put in cost.

Senator EVANS. My goodness. Cost is not important.

Secretary HERRINGTON. Well, I think—I am not trying to be humorous on this.

Senator EVANS. No, I am not either.

Secretary HERRINGTON. I know. In selecting this repository, the most important issue is environmental stability, safety, what you are looking at, at characterization. I don't think you can put cost as your No. 1 determinative in selecting a nuclear waste site. And I think that as manager of this program, we can't be in that position. If you put cost in this program, you are absolutely correct. Hanford ranks 5. If you take cost out, environmentally and what it does to the area and the safety of the site, Hanford is No. 1.

Senator EVANS. That is only for preclosure, not postclosure?

Secretary HERRINGTON. Yes, sir.

Senator EVANS. In postclosure, where is Hanford?

Mr. RUSCHE. It offers the greatest potential for release but that potential is still a factor of a hundred better than the standard.

Senator EVANS. In answer to the question is it one, two, three, four, five?

Mr. RUSCHE. It is five. But that is 100 times better than required.

Senator EVANS. Sure. We are estimating now. We can be proven right; we can be proven wrong. But comparatively, it is No. 5.

Mr. RUSCHE. That is correct.

Senator EVANS. And the difference in cost, which appears to not be terribly important—the difference in cost was what, something like $4.3 billion? Is that about right?

Secretary HERRINGTON. I think that is close. But the important thing is that you don't have to make that decision today. That would go into the final recommendation. But I don't see how you can weigh cost as the most important factor at this stage before we get through with characterization of the three sites.

Senator EVANS. As you might guess, I am leading to something. So after going through the scientific characterization of all of these factors—preclosure and postclosure—and when you aggregate all the factors, your own documents showed a certain ranking and you chose to change that ranking simply on the basis of wanting to get further variety in terms of geologic media. Is that essentially correct?

Mr. RUSCHE. Senator, that is a factor.

Senator EVANS. Isn't it essentially correct?

Mr. RUSCHE. No, it is not because the large document to which you referred, depicts many sets of factors. It is the reference case to

which you are referring which leads to the conclusion you have mentioned.

There is no basis for determining which is the right case. The decision-aiding methodology is for the purpose of elucidating the subject so you and we all can look at it and make a choice. And it was that set of factors, including diversity, that led the Secretary to the conclusion that he made.

Senator EVANS. That is a long way of saying that you take a lot of factors and then you make up your own mind.

Mr. RUSCHE. Well, somebody has to make up their mind, I am sure.

Senator EVANS. But it doesn't make sense to decide what the basis is for making up your mind first, trying to establish some kind of a mechanism for doing that and seeing where the sites—all of them—come down and let that govern what you intend to do. That is the way we normally do things when we are trying to choose between a variety of programs.

Secretary HERRINGTON. Senator, one of the reasons for delaying this program is that although it was not required by the law, we referred this to the National Research Council, which is the governing body for the National Committee of Physical Science and the Academy of Science. I want to read two things out of the responding letter that I think are very important when you are talking about methodology.

The first one is:

> The Board commends the Department of Energy for the high quality of the chapters that were reviewed. The use of the multiattribute utility method is appropriate. And the Board is impressed with the care and attention to detail with which it has been implemented.

In the conclusion of this letter:

> We believe that the methodology the Department has selected represents state of the art and is adequate and appropriate for this purpose. We compliment the Department of Energy on its care and diligence in implementing the site ranking methodology and encourage the Department to build on the experience it has gained as it continues in the search for geological repository.

Now that is an independent look at the methodology and I think it is a good validation of what Mr. Rusche has done.

Senator EVANS. I am not so sure it is quite that. I have read the letter and I have also talked to members of that panel. There is a lot more to it than those two little phrases that are in the letter. One is the methodology and the other is how you utilize the methodology.

But let me move to the next step in all of this, which is, if you really believe that there is a chance that we won't need this second repository, that we can save the money and that it would be prudent to move onto the first one and that it is important, as apparently you felt in the first characterization, to have a variety of geologic media, why then not back off and take a look at all geologic media, including granitic rock. And then make your decision based on which is most suitable from among all of them, rather than eliminating one whole range and then on the other hand on the first characterization saying it is important to reach down into the pack after you have made site characterization rankings and pull the site up simply because you want diversity of geologic media.

Mr. RUSCHE. Senator, it would take about an additional 5 to perhaps as many as 10, but certainly 5 years to bring any other material and particularly crystalline rock to a state where it would be in the position to be considered for nomination. I think if the Congress and the country were to decide that adding 5 or 10 years to the program were suitable, then such a course could be considered.

Senator EVANS. Why do you have to wait for Congress to do that? You have already made an independent decision that you don't have to follow the schedules set by the Congress on the second site characterization. Why do you have flexibility on one and not on the other?

Mr. RUSCHE. We concluded that the intent of Congress was fairly clear with respect to the first repository.

Senator EVANS. But not on the second?

Mr. RUSCHE. Which it authorized.

Senator EVANS. But not on the second repository?

Secretary Herrington. I think that is right.

Senator WARNER. Would the gentleman yield just for an observation in fairness to the Secretary and his colleagues. This particular act was passed in a lame duck session. There was no conference report, there were no committee reports, and as such there is very little legislative history ordinarily present to try and help with an interpretation of an otherwise unclear statute.

So part of the fault, if indeed there is any fault here, lays not in my judgment with the leadership with the Department of Energy but perhaps with the Congress, hastily pushing through this legislation without an adequate legislative history.

Senator EVANS. I would agree with my colleague from Virginia. Often Congress is pretty vague in what they pass and the legislative history is not at all clear. In this case, however——

Senator WARNER. It doesn't exist.

Senator EVANS. But the law is so clear it doesn't need legislative history in what it requires the Department to do. Nonetheless, Mr. Rusche, you suggest that we can't back off since it would take 5 years. How does that compare? How long are we preparing for? How long does this long-term site have to last?

Mr. RUSCHE. The standards require us to provide protection as best as we can identify for 10,000 years.

Senator EVANS. 10,000 years?

Mr. RUSCHE. Yes, sir.

Senator EVANS. What percentage is 5 years out of 10,000? Not very much, is it?

Mr. RUSCHE. Very small.

Senator EVANS. Isn't it important to do it right rather than to get it done?

Mr. RUSCHE. We think it is right, and we think that right is determined by the standards.

Senator EVANS. How can it be right when you are headed down a road that very well could preclude even taking a look not just now, but forever, at another geologic medium that might well prove to be the best?

Mr. RUSCHE. Senator, we are going to continue looking at that very material. We are just not doing it on a site specific basis. We will have data from our international collaborative efforts. We

have had the benefit of the exercise we have gone through thus far, and if it ever becomes necessary to look, we believe we will have made a good investment thus far and be in a position to restart if that becomes necessary.

Senator EVANS. But you will not know, if you ultimately decide to construct just a single site that appears to be sufficient to handle the expected volume, you will never know whether that is the second best or the best thing to have done for the country.

Mr. RUSCHE. I do not mean to appear flip about it, but that statement applies to all other such sites, not just those with respect to crystalline. To prove the negative would require us to look at every site in the country. We think that Congress, by its direction for the first repository, directed us to look at sites about which we already had data in hand and if we find the site acceptable, to proceed and to consider for a second repository, if and when it is needed, additional rock media. And that is precisely what we are trying to do.

Senator EVANS. It seems to me you are caught maybe inadvertently in an inconsistency. On the one hand, we are going to reach outside the bounds of our own ranking and scoring system that we devise to pick a site just in order to get geologic diversity, yet, on the other hand, we are going to ignore a second-tier site which would give us further geologic diversity. That is a kind of catch-22 situation, it seems to me.

Mr. RUSCHE. If we take the intent as we read it to characterize three sites, we have maximum diversity, clearly adding another type of rock would increase that degree of diversity. But we interpreted Congress to have made a judgment and we certainly share the judgment that that is a reasonable investment.

Senator DOMENICI. Would the Senator withhold on further questions for a second round?

Senator EVANS. Yes.

Senator DOMENICI. Let me ask the Secretary now as I understand it, you are still on this schedule where you would like to leave this committee at 2:30?

Secretary HERRINGTON. Yes, please, sir.

Senator DOMENICI. Let me ask the Governors who are here. Are you on an urgent timeframe?

Governor BRYAN. Mr. Chairman, I would like to be able to leave at 3 if I may. I have another meeting here in Washington set up with another agency before I return to Nevada.

Senator DOMENICI. We will try our best, then.

Let me ask you a couple of questions, Mr. Secretary.

As I understand this act, there is nothing about it in terms of funding that is self-executing. Everything in this act is subject to appropriations and authorization; is that correct?

Secretary HERRINGTON. Yes, sir.

Senator DOMENICI. Now we are collecting money, setting it over in a fund, from the utility users of this country to pay for this overall implementation of this 1982 act; is that not correct?

Secretary HERRINGTON. Yes, sir.

Senator DOMENICI. Nevertheless as I read the act, Congress said we will tell you how much you can spend each year; is that not correct?

Secretary HERRINGTON. Yes, sir.

Senator DOMENICI. And we will tell you what you can spend it on; is that not correct?

Secretary HERRINGTON. Yes, sir.

Senator DOMENICI. As a matter of fact, my recollection is that in this appropriation process, funding of this act, there is a line item of appropriation for your first site selection process, so many hundreds of millions of dollars; is that correct?

Secretary HERRINGTON. Yes, sir.

Senator DOMENICI. There is a line item for so many millions of dollars for the second round process; is that not correct?

Secretary HERRINGTON. Yes, sir.

Senator DOMENICI. There is another line item for MRS; is that not correct?

Secretary HERRINGTON. Yes, sir.

Senator DOMENICI. Now it seems to me that then in your testimony, Mr. Secretary, where you allude to there being something different about the second process from the second round site selection, and you used the words subject to appropriation and authorization, that as a matter of fact, that is no different from the process that is in place for funding the first one process with one exception: the statutory authorizing law says that before you start construction of a second site selected location, Congress has to approve that site.

We do not have to approve the sites in the first one. We just fund, and if you have done it right, subject to the State's petitioning us to vitiate your action, which is sort of backhanded if Congress wants to concur with a no, there is that one intervening step on the first site. But there is no other difference; is that correct?

Secretary HERRINGTON. That is correct, sir.

Senator DOMENICI. Then it appears to me that there is no different authority on your part with reference to sites one or the second round in terms of your responsibility that flows from the money appropriated to you. Do I read that right?

Secretary HERRINGTON. I think that is correct.

Senator DOMENICI. Therefore, if I read it right, your decision to indefinitely postpone is a nullity; is that correct?

Secretary HERRINGTON. I think the timing is open to discretion on my part. I don't think that as to whether we go forward or don't go forward, I have any discretion at all.

Senator DOMENICI. Why would Congress appropriate money in one line of its appropriation to defer site selection and tell you to do it pursuant to the statute and appropriate money, specific money, for the second round site selection from the same statute with the same money—with different money—saying this money is for this and this money is for that and we appropriated both. How do you distinguish between—what are you going to do with the money that you are not using for the second round? Where is it going?

Secretary HERRINGTON. Up until this point we have recalibrated every year by submitting a mission plan to Congress, and which we will intend to do now. Up to this point that has been satisfactory with Congress and we hope it will be this time.

Senator DOMENICI. Then let me put it another way.

What difference does it make what you said in your letter whenever it was—and I have the greatest respect and deference—and I understand the logic to some extent if there wasn't a statute around of your reasoning—but what difference does it make what you say in your letter from August, September, and October of this year if Congress, in its wisdom, says Mr. Secretary, here is $850 million to continue under this law with site No. 1 selection process and here is $350 million to continue with site No. 2, second round. What are you going to do about that?

Secretary HERRINGTON. I would say that we will do what the legislation says and the way you phrase that, we will move forward.

Senator DOMENICI. So what did we get in this mess for if Congress is going to tell you what to do anyway?

Mr. FYGI. Mr. Chairman, may I make a point on that?

Senator DOMENICI. Wait a minute. The Secretary wanted to make a point. He is not a witness here.

Secretary HERRINGTON. You always let the lawyers speak when they want to speak, and I would like him to, please.

Senator DOMENICI. I would be delighted. I wanted to mention, with reference to the lawyers: Your success rate in defending this suit, I hope it is better than the one on uranium miners. [Laughter.]

You came before us for 3 years and told us that industry was viable when it was dead and then you went to court and the court not only told you it was dead, it told you you had to have an import quota on it, if you recall that.

Mr. FYGI. I recall that, and I appreciate your thinking of that. [Laughter.]

Senator DOMENICI. I didn't see you particularly telling us at that point, nonetheless, so it may have been some other counselor around.

Mr. FYGI. Well, that is not the last chapter that has been written in that lawsuit either, Mr. Chairman.

The points you made I think were very well taken from the legal structure of the statute. Let me emphasize that the Congress has a look at the pace of all of our activities implementing each and every deadline in this statute annually in the appropriations process. And we would expect that that is yet another vehicle whereby the Congress contemplated, in the statute, it would have a hand at taking further actions that share the benefits of all we learned in implementing the statute and all of its programs.

Senator DOMENICI. I understand. Frankly, it just seems to me that what we really have is that this is left up to Congress in the next 3 or 4 months in all events. And I am glad to hear that if Congress says proceed, you will proceed. I think that Congress will have to make that decision, and that is what you are saying, counselor. You will have all those facts and they may end up agreeing with you.

Mr. FYGI. Absolutely, Mr. Chairman. I don't think any of the policymakers in the administration would dispute for a moment that the Congress could change that position by legislation.

Senator DOMENICI. Let me ask you just two more questions.

Has the decision by the Secretary to indefinitely postpone in any way tainted the process with reference to the second site selection

whereby those who are now in that process, even if Congress were not to appropriate the money, might say you spoiled that process by your indefinite postponement?

Mr. FYGI. Counsel will have to defer to the principal for a change.

Secretary HERRINGTON. Mr. Chairman, I don't think so. We did look at and receive public comments from a great number of sites. We have categorized them. The comment period is not over yet. I don't see any jeopardy to the program by this decision. I cannot name one jeopardy that would——

Senator DOMENICI. Then I have my last question. Again, obviously, the way the Senator sees it, Congress will take your decision into consideration along with the other evidence that it has before it when it makes its decision as to what it wants to do with reference to this overall process.

It does appear to me that there is a bit of inconsistency on the part of the administration when you have an entrusted fund that is supposed to be spent for something. On the one hand we have certain members of the administration saying when it is a program like—let's just pick one, Social Security—the entrusted fund is supposed to go there and not for debt, for reducing the debt. In this case the money is going into this fund; obviously it will be accumulating, and the Department of Energy is saying it will beneficially affect the budget by not spending it because you can take it into account.

I don't expect any comment from you other than to tell you that there are at least five different versions. For the highway fund it saves money; for Social Security it doesn't save money; for this it saves money.

My last question has to do with is it not possible, Mr. Secretary, that Congress in its wisdom in providing for first selection process and the second selection process, regardless of the early estimates of need, had in mind that to make this process work, you ought to be busy about both?

Did that ever come across anyone's mind that Congress might have had in mind in a very volatile, contentious area that it appeared if you weren't doing both, that you were relegating the entire nuclear waste to one part of the country and one process that was not as broad, either geographically or geologically as the second?

I frankly believe that was the reason for it myself.

Secretary HERRINGTON. Mr. Chairman, I don't know what the delicate coalitions or balances were in Congress at that time. I obviously read about them and heard about them. That being said, we have an existing law and a program that has to be managed well. And I think the Department is doing a good job.

Senator DOMENICI. I think the Department, in its site one work under Mr. Ben Rusche, in one of the most difficult areas that we will ever legislate on in a democracy, is doing a marvelous job. The proof of the pudding in what I just said as to the intention is the reality. And the reality is that it is now perceived by the States who may be host States in the first round, to be some kind of doublecross.

Consequently lawsuits, refusals to cooperate, precisely what the Senator from New Mexico just indicated may have been at the heart of the reason to have a one process going and a two process going and not predicated upon a new estimate of 70,000 metric tons will get you through 2008 or 2010.

Let me suggest, without getting pushed on another area, I mentioned three appropriated accounts: The MRS, they are going to come in with the same kind of reasoning that I just gave you. What assurance do they have that that temporary program with limits, is not going to get pushed to the limit and beyond the limit by virtue of the decision not to proceed with the second round?

Having said that, clearly I compliment the Department for all its efforts. It is as tough as could be. The reasoning not to proceed because it is not needed for a long time on the one hand makes common sense. I am not so sure that in dealing with this kind of approach that one can always use common sense.

I think one has to look at the statute and perhaps, from time to time, trust the wisdom of the policymakers who happen to represent all the interests. That is why we were able to put this thing together. And we had the East and the West and the granite and the nongranite and all the others around when it was put together. I don't know that we need an answer. That is just my observation.

Secretary HERRINGTON. Thank you.

Senator DOMENICI. Does somebody want to follow up here?

Senator WARNER. I would like to have a few questions unless someone has an urgency; I will be staying throughout the hearing.

Mr. Chairman, if I might ask again on the appropriations cycle, there was a line item put in in 1987.

Excuse me, Senator Humphrey, would you like to——

Senator DOMENICI. Senator Humphrey, we would be glad to have you ask questions. We have got a lot of time.

Senator HUMPHREY. I will be back.

Senator DOMENICI. OK. When you come back, we will accommodate you immediately.

Senator WARNER. On the appropriations, again, 1987 apparently has a line item in it with reference to second site selection. There was some thought that perhaps there was a question of whether you could take moneys within the discretion of the Department and apply it toward the work on second site selection without a specification authorization appropriation by the Congress.

Following the line of discussion here, the colloquy with the distinguished chairman, it seems to me that you have now eliminated that as any basis for questioning, going ahead on the second site. In other words, did you feel you had full right to use moneys within the Department for work on the second site or did you need some specific authorization appropriation by the Congress?

Mr. RUSCHE. Senator, if I may answer. The action of Congress in its appropriation authorization activities clearly provided full authorization, full basis for us to do the work on the crystalline repository effort.

Senator WARNER. And that was under which act? Which of the several appropriation acts?

Mr. RUSCHE. That was under the Waste Fund, under the Nuclear Waste Policy Act. And with respect to your consideration of what

we would do now, we are in the process of reviewing what is needed for the remainder of this year, should this course that the Secretary has indicated be carried out.

With respect to the 1987-88 budget considerations which are yet to come, we may find it necessary to supplement what we have requested because clearly the amount of effort required in future use would be different from what we have projected. But it is not zero, and without prolonging the answer, if I could give you just one number, if I may.

We currently—the best estimate I have is that if we continue on the course outlined by the Secretary, instead of spending $75 to $90 million a year over the next 10 years, we will probably be spending in the range of $15 to $25 million a year in our analytical and technical work and in international cooperation. So it is not a zero program. It is clearly providing information which would be relevant and appropriate, should we need to recontinue.

Senator WARNER. But it was the Secretary's decision which he feels he has the discretion, and I join in that under the law, that he could defer the expenditure of those added funds, in view of the lack of necessity to press on; isn't that correct?

Mr. RUSCHE. Correct. And if we found we didn't need the funds, I presume, we would consider rescission.

Senator WARNER. What would be the status of the 12 potentially acceptable sites identified in the crystalline repository project when the Department once again proceeds with its second site selection?

Secretary HERRINGTON. We will obviously put the comments on the work done so far on the shelf and categorize it and have that available should, in the future, we need to go to the second site.

Senator WARNER. Will each of the sites be automatically reactivated for consideration?

Secretary HERRINGTON. No. I think with the time delay that we anticipate for approximately 10 years, you are going to have to go back to ground zero to start again because you may have new factors, new population base, new technologies—several things. But I don't think you can say today we anticipate starting over. Those comments would be very helpful.

Senator WARNER. What about additional information relative to geological considerations? In particular, is the Department obligated to select a site in a crystalline rock formation? Will the Department be looking at other mediums for permanent disposal?

Secretary HERRINGTON. I think we would look at all mediums.

Senator WARNER. So it would not be limited simply to crystalline rock?

Secretary HERRINGTON. Yes.

Senator WARNER. Mr. Secretary, as you know, States involved in the crystalline repository projects were eligible for grants for the Department to cover the costs associated with review of the draft area recommendation report.

Are you sure you want to let me have this for ten minutes?

Senator DOMENICI. Yes. Would you Chair for 10 minutes? There are plenty of people to watch you.

Senator WARNER [presiding]. I am advised it is unclear at this time whether or not the Department will award any additional funds to these States, given the postponement of the project.

Will the Department to continue to accept grant applications for funds incurred by States in responding to DOE's draft area recommendation report for the second repository project?

Secretary HERRINGTON. I can't imagine us accepting applications or handing out any more grants. I would say we would phase that out by the end of the year and there might be a special case or something, but not as a general rule.

Senator WARNER. Applications submitted by July 1 of this year would be considered, then?

Secretary HERRINGTON. Yes.

Senator WARNER. Thank you, Mr. Secretary.

Are there others?

Senator HECHT. What if I take 10 minutes?

Senator WARNER. You go right ahead and take as much time as you wish.

Senator HECHT. No, I don't want to take time away from my colleagues.

Senator WARNER. We also bear in mind the observation of the Chair with respect to the Governors. So I would hope that perhaps we could cut back a little.

Senator HECHT. The State of Nevada has sued the Department to provide funds for the State to do independent research of the Yucca Mountain candidate site. Nevada officials tell me that the DOE has not been cooperative in this regard, despite a Federal court ruling to support Nevada's position. Now that Yucca Mountain has been officially selected for site characterization, would DOE change its position and promptly provide the funds Nevada needs for independent research?

Mr. FYGI. Senator, the original lawsuit brought by the State resulted in a motion in which the State did not get its funds and we would continue making future decisions in accord with the law as it was stated by the ninth circuit in that case.

Senator HECHT. What does that mean?

Mr. FYGI. That means they don't get their money yet.

Senator HECHT. When? I am a businessman. When is the check going to be in the mail?

Mr. FYGI. Mr. Rusche said it is almost at the mailbox.

Senator EVANS. That is what they all say.

Mr. RUSCHE. Senator, there is about a million dollars in question. About half of that we have agreed on with folks from Nevada. The other half is still under discussion as to the appropriateness under the guidelines of the ninth circuit. I hope we will be able to resolve that shortly.

Senator HECHT. If the Department succeeds in indefinitely postponing the second repository, would the Department look more favorably on sites for the first repository that could physically accept more than 70,000 metric tons of waste?

Secretary HERRINGTON. I don't think so because the law requires us not to put more than 70,000 metric tons in any one site. So I don't think that is a factor.

Senator HECHT. Are you going to hold true to that on no more than 70,000 tons in any spot?

Secretary HERRINGTON. I am going to do what the law says, Senator, and the law says no more than 70,000 tons. At least for the next 3 years this I am in that job, that will be our position.

Senator HECHT. I am told the law says you can only go to 70 until the second opens up and then you can go above 70.

Mr. RUSCHE. I believe the law literally says that the NRC may not approve an application of construction for greater than 70,000 metric tons until there has been a consideration of second repository. And what happens thereafter is not clear under the law.

Senator HECHT. Could I ask the counsel to give us in writing a legal clarification on that?

Mr. FYGI. We would be happy to provide something for the record.

[The information follows:]

The 70,000 metric ton restriction is noted in Section 114(d) of the Act. The Sectrion is titled, "Commission Action", and discusses the construction authorization for a repository. The restriction reads:

"The Commission decision approving the first such application shall prohibit the emplacement in the first repository of a quantity of spent fuel containing in excess of 70,000 metric tons of heavy metal or a quantity of solidified high-level radioactive waste resulting from the reprocessing of such a quantity of spent fuel until such time as a second repository is in operation".

A second repository is not currently authorized under the NWPA. Congressional authorization, construction and licensing of a second reporisory are thus conditions precedent to any expansion of the first reporitory beyond the 70,000 metric limit now contained in the Act.

Senator HECHT. Is Public Health and Safety, both preclosure and postclosure, the singlemost important criteria for choosing a site?

Secretary HERRINGTON. To me it is, yes, sir; especially postclosure.

Senator HECHT. Do you agree with me that the cost factor has received excessive weight in DOE's analysis of site up until this time?

Secretary HERRINGTON. Yes.

Senator HECHT. The documents distributed by the Department on this decision include many graphs comparing the five initial candidate sites. Does the Department have at this time any ranking for the three jobsites, for instance, which might be in first place, second place, and so forth?

Secretary HERRINGTON. No.

Senator HECHT. I have about 25 further questions, which I will submit to you in writing because of the time frame, and yield to my colleague from Washington.

Secretary HERRINGTON. Thank you, sir.

Senator DOMENICI [presiding]. Senator Evans, let me ask if you might accommodate here.

Senator EVANS. I have just got two short questions.

Senator DOMENICI. Fine. I think we ought not go more than 2 or 3 minutes each on this second round and then go with the Governors who obviously have also come a long way, a lot further than the Secretary. We can call him back here if we need him.

Senator EVANS. First, Mr. Chairman, I am not sure whether this falls in terms of a question or just an added comment. But to follow up on what the chairman said in putting the process in jeopardy, it seems to me that perhaps inadvertently we have put the process

considerably in jeopardy from the careful balance that has been repetitively referred to, the fact that we have to go through annual appropriation acts and those line item appropriations are for the first and the second repository.

And now with an announcement by the Department that you are willing to sort of indefinitely postpone any action on the second repository, considering further the fact that there are 12 States involved in that second repository, haven't you just virtually ensured that there will be a good solid 24 votes against any further line items for second repository and in fact put something in jeopardy?

Secretary HERRINGTON. That was not part of the decision, sir.

Senator EVANS. I am not talking about the decision. I am talking about the consequences of the decision.

Secretary HERRINGTON. I don't know.

Senator EVANS. Part of the decision, it seems to me, has to take into account the most careful reading of congressional intent and it isn't apparent, perhaps even inquiring because it seems to me that that is where we—I don't fault you necessarily for the decisions in terms of how you thought money could be best utilized or process best be carried out or how much waste there was. But there had to have been some recognition. They were your predecessors in office when this act was passed. So you obviously weren't there at the beginning. But it seems to me someone should have understood the nature of the act when it was passed and the careful political considerations that went into it and how they might affect these kinds of decisions.

Secretary HERRINGTON. Senator, I can't believe that Congress intended us to build a second repository to keep intact the political balance if we, in fact, don't need one. I just can't believe that.

Senator EVANS. No, I think it probably is true, however, that Congress said let's take the broader look at all the first and second repository opportunities and if it looks like we maybe zeroed in on one, then let's look at the whole arena and not just part of the arena. I think that is the concern.

Secretary HERRINGTON. I think we are doing that. I think we can do that. The only thing we are obviously in disagreement on is the timeframe. I think that can be done legitimately in the timeframe we are suggesting and probably with a better chance of success after we have the program well down the line.

Senator EVANS. Given that, would you agree or disagree with this statement that while construction of the second repository is not authorized by Congress, other activities involving siting and design of a second repository are required under the NWPA.

Secretary HERRINGTON. I think they are required. I think, again, what we are disagreeing on is when——

Senator EVANS. Indefinite postponement doesn't—I guess we are all accustomed on the political side, knowing what we understand by indefinite postponement. I mean it is going to be a long, long time. Usually that is the consequence of a definite postponement.

Secretary HERRINGTON. Well, we are suggesting mid-1990's will keep the option open. We will let it—the most technology and the most flexibility of the decision come into play. I think that is a prudent choice or I wouldn't have done it.

Senator EVANS. Thank you, Mr. Chairman.

Senator WARNER. Mr. Chairman, if I could just observe. The Secretary has had a tough opportunity here on the questioning. I think he has withstood and in every respect justified the actions he has taken.

But have you had the opportunity to express all your views on this now that you had the question period following your opening statement?

Secretary HERRINGTON. Yes, sir, I have. The statement, I think, is complete. We recognize that this is a difficult area. I think you understand that we have not had one elected representative from any one State come to us and say we would like your nuclear waste in this country. And that is to be understood.

And even though you are talking $6 to $7 billion being put into a State that will accept that, which is a tremendous amount of money, no one has said we want it; so it is a difficult program. It is difficult for you and it is difficult for us. We hope that we made the right decision and we are going to be responsive, not only to the total Congress but to this committee in putting our mission plan. If there is disagreement, we are going to do what Congress tells us to do. But right now we think we have taken a prudent course of action.

Senator WARNER. I think you are to be commended for your leadership.

Secretary HERRINGTON. Thank you, sir.

Senator DOMENICI. Mr. Secretary, we thank you very much.

Senator Ford.

Senator FORD. I have several questions in writing I want to submit.

Senator DOMENICI. I have some also, Mr. Secretary.

Senator EVANS. One observation, Mr. Chairman. Maybe there is an answer out of this whole thing. I suggest, Mr. Chairman, that maybe what we need to do is put a package together and get down to the point where some site somewhere is selected and also suggest that maybe that ought to be the site for the super colliding accelerator, that there ought to be several other elements that people really want and put a package together. And at some price some State is going to think that is a pretty good deal. Maybe we will get them to positively bid for it rather than run away from it.

Senator FORD. That is the first time I have ever had an offer that the West would give to east of the Mississippi River, I want you to note.

So I am going to vote for the space station to receive all of it.

Senator DOMENICI. All the waste?

Senator FORD. All the waste. Everything.

Senator DOMENICI. Is that for western space or eastern space?

Senator FORD. Both.

Senator DOMENICI. Mr. Secretary, let me close by thanking you and just suggest that what you are hearing here and even the suggestion that the junior Senator from Washington just indicated frankly in the Senator's view a depository for—permanent depository for nuclear waste is not a technical question. I am sure there will be plenty of people to disagree with that.

But I believe that America's scientists of all shades, colors, will end up saying it is not a technical question. It is an institutional and political question.

That is why I raise the points I raised because I believe the only way it is going to get solved is institutionally and politically, and that concerns me if, as a matter of fact, this decision, which may be technically all right, might have 8 or 9 years to wait around. But if it destroys the institutional fabric and maybe they were waiting around for excuses, I don't know. I mean, this is a very, very difficult area but it does seem to me that those who make decisions clearly ought to know that and I believe you do. I hope we will be able to work it out one way or another.

I thank you for your time and the time of Mr. Rusche and, counselor, forgive me if I appeared to be stepping on your prerogatives as, what I am sure, is a very excellent counselor to the Department. I just hope you don't win the uranium case. [Laughter.]

Now we will have the Governors. Thank you very much.

Secretary HERRINGTON. Mr. Chairman, could I thank you and the other members for letting us go ahead of the Governors. I appreciate it very much and it is a courtesy to us and we appreciate it.

Senator DOMENICI. Thank you very much.

Next we have two very distinguished Governors: Hon. Booth Gardner, the Governor of the State of Washington; and Hon. Richard Bryan, Governor of the State of Nevada. May we proceed in the order that the chairman called your names, proceeding first with the State of Washington, please.

STATEMENT OF HON. BOOTH GARDNER, GOVERNOR, STATE OF WASHINGTON

Governor GARDNER. Thank you, Mr. Chairman. Both Governor Bryan and I appreciate the opportunity to be here and the courtesy with which you extend——

Senator DOMENICI. Governor, would you hold for a moment.

Could we have order, please.

All right, Governor, proceed.

Governor GARDNER. I appreciate your closing comments when the Secretary was here about perhaps the ultimate decision will be made on a political decision. But it has to be technically right before that type of decision is made. And I agree with you, Senator Domenici, that the fabric of this is extremely important. You have heard about the lawsuits; I will speak briefly to that. But what I come today is bearing the proposals of how perhaps we can set this back on course in a constructive manner. Before I do that, let me just make a few comments.

When I took over as Governor in 1985, the first challenge I faced at that time was the State's reaction to the possibility that Washington would become a home for the Nation's high-level nuclear waste. Now we in Washington State, as many of you know, have approached this problemmatic decision in a little bit different manner than my counterparts in other States.

We didn't say absolutely not, not in our backyard. But rather we approached this in a responsible manner, feeling that there must

be a rational answer and a rational discussion to this issue of high-level nuclear waste.

We had two conditions and understood that there were two conditions to our participation in this process. First, that the decision would be made, at least initially, based on technical, scientific data and that the site chosen would be the safest site available for such a repository.

Second, the DOE would follow the rules established in the Nuclear Waste Policy Act. The elimination of the second route selection process, in our opinion, violates the Nuclear Waste Policy Act, succumbs to politics, and tells us that instead of searching for the safest national location, you are limiting the search to the Western United States.

Now let's talk politics for a moment. Everyone knew what a delicate process it would be to locate a repository and the fear, in Congress, as we understand it, was that it would be impossible if the decision was to be based on political clout.

That is why it was agreed that science must be the driving factor in this decision and selection of a potential repository. As part of a delicate compromise that allowed the passage of this act in the first place, it was determined that there must be two rounds of siting process for repository. Now we believe that that very fabric has been flagrantly violated and it has compromised the intent of Congress.

Now the results are very simple. We can go to court. We feel we have a fairly good case. We could slow this process up and a lot of money could be spent and we would have to start over. But that is a negative process for resolving problems. So what we would like to suggest is the following: A five-point fairly clear program.

First, bring the process to an immediate halt for the moment. Now that is not as difficult as it sounds because there are already stop-work orders in both Nevada and Washington and no work has begun in Texas.

Second, restructure the site selection process. Establish a significant decision-making role for independent technical groups such as the USGS and NAS. Secondly, combine, if necessary, the first and second rounds and conduct a nationwide search for the safest repository. And third eliminate the specific statutory deadlines which almost everyone acknowledges probably cannot be met anyway.

Then restart the process.

Require an independent study as to whether one repository will in fact suffice or if there needs to be a second repository, and at the same time authorize construction of an MRS facility and require its completion at an early date.

Now what is unique about the plan? What is unique is that it is a constructive process, one. And two, we are not saying take Washington State out of consideration. If you can show us through the characterization process based on an appropriate ranking methodology and based on an open and fair assessment of the potential sites, that ultimately Hanford, WA is the safest site and perhaps that is where the repository should be.

But barring that and maintaining the fabric that you so well stated in your comment of a fair and open and technical process at the outset, then I have to say, as a Governor, it will be very diffi-

cult for us to sell the people of our State that a repository ought to be in the State of Washington, and you can expect a tremendous fight from us, barring that.

Three closing comments. Another concern of not having the second round is that we feel—and Governor Bryan and I have talked about this—that by pushing the second round so far back or abandoning it is the word we prefer to use, that it puts tremendous pressure on those sites presently selected to meet the standards and be a repository.

Second, Secretary Herrington said there may or may not be a need for a second site. If that is the case, then we ought to assess all potential geologic possible sites.

And finally, in conclusion, the reality is that the purpose for a second track process was to assure fairness to all. And we would like to suggest we return to that.

Thank you very much.

[The prepared statement of Governor Gardner follows:]

TESTIMONY OF

GOVERNOR BOOTH GARDNER

STATE OF WASHINGTON

TO

SENATE SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

JUNE 16, 1986

In January of 1985, when I became Governor, one of the first challenges presented to me was the State's reaction to the possibility that Washington could become a home for the Nation's high level nuclear waste.

We in Washington State approached the likelihood differently than my counterparts in other states.

We didn't say, "Hell no, not in my backyard." Instead we took the responsible tack that there must be an answer for the high level nuclear waste problem.

The keys to our participation in the process were two criteria:

1. The decision would be made based on science. The safest, and only the safest, site would be selected, and politics would not be part of the process.

2. DOE was to follow the rules established in the Nuclear Waste Policy Act.

It is disappointing that I must report to you that we believe both those conditions for our support have been violated by DOE.

The elimination of the second round site selection process violates the Nuclear Waste Policy Act, succumbs to politics, and tells us that instead of searching for the safest national location, DOE is limiting the search to the Western United States.

Now, let's talk politics. Everyone knew what a delicate process it would be to locate a repository and the fear, in Congress, was that it would be impossible if the decision was to be made based on political clout.

That's why it was agreed that science must be the driving factor. As a part of the delicate compromise that allowed the passage of this act in the first place, it was determined that there must be two rounds for siting the repository. Now DOE has flagrantly violated the compromise made by Congress.

What is the result of DOE's failure to live by the rules?

To put it in simple terms: If the federal government won't play by the rules, we will see you in court. The future of a repository will be tangled in the nation's court system for years to come.

I believe that our case is good enough that we will seriously delay the process, and probably prevail. The result is, 10 or 15 years down the line, the government will have invested a fortune and will find itself right back at step one.

Lawsuits are a negative solution. I also have a positive solution:

1. Bring the repository site selection process to an immediate temporary halt. Stop-work orders are already in effect in Washington and Nevada due to quality assurance problems, and no work has been started in Texas. Therefore, the immediate effects of such action would be minimal.

2. Restructure the site selection process.

   a. Establish a significant role in the decision-making process for independent technical groups such as USGS and NAS. We must get the scientists directly involved and remove politics from the decision-making process.

   b. Combine the first and second rounds and conduct a nationwide search for the safest repository.

   c. Eliminate specific statutory deadlines which almost everyone acknowledges cannot be met.

3. Restart the site selection process.

4. Require an independent study of the need for a second repository, as opposed to expanding the capacity of the single repository.

5. Authorize construction of an MRS facility and require its completion at an early date.

What is unique about this plan? We aren't saying, "Take Washington out of consideration." If DOE can show us that we should be in the characterization process, based on appropriate ranking methodology and based on an open and fair assessment of all potential sites, and ultimately if we are the safest site, then maybe we should be a repository site.

But, I can assure you of one thing: If DOE fails to follow a process that selects only the safest site and then it tries to locate the repository at Hanford, it can expect one hell of a fight -- a fight the people of Washington do not intend to lose.

Senator DOMENICI. Thank you very much, Governor.
Governor Bryan.

STATEMENT OF HON. RICHARD BRYAN, GOVERNOR, STATE OF NEVADA

Governor BRYAN. Mr. Chairman and members of the subcommittee, let me also, on behalf of my constituents, express my appreciation to you and the members of your subcommittee for the time that you have provided us to testify. If your rules permit, Mr. Chairman, I would like to make a written statement a part of the record. But in light of the colloquy between you and members of this subcommittee and the Secretary, Mr. Rusche, and counsel, I would like to depart from that text and I think by doing so it will be more abbreviated.

Senator DOMENICI. Your statement will be made a part of the record.

Governor BRYAN. Thank you.

Mr. Chairman, the history of this act has been traced in some detail by previous witnesses that have appeared before you. Let me indicate that from our understanding, the very basic premise, the undergirding of the act itself involve three elements, each of which is essential, integrated, and not capable of being severed one from the other.

One is that the selection system would be fair. That it would be a fair system. Second, that that system would be based upon sound technical data. And third, that there would be regional equity—that is no part of the Nation would be asked to bear all of the Nation's high-level nuclear waste.

The implementation of that process has been fatally flawed. The most recent decision by the Department of Energy, which I want to allude to later—that is the decision to indefinitely postpone; the second tier States is only the proverbial straw that broke the camel's back.

In the idiom of the street, language which all of us in this room fully understand, Nevadans feel that they have gotten the shaft. The Department, from its very inception, notwithstanding the high expectations of Congress and the very careful compromises that went into this act, expected, I believe, that the cooperation, the colloquy between the States and the Federal agency charged with this responsibility, would be an open one, that there would be a shared basis for information and when information was requested, that that information would be forthcoming.

From the perspective of our people in Nevada who have worked on the technical aspects of this, the relationship could only be charitably characterized as that of a master and a servant relationship. From the very beginning, and I begin with the siting guidelines, it was the hope of all of us that those siting guidelines would have specific criteria that some States, some sites, would by the definition that criteria be excluded and others would be included.

In point of fact, we have got guidelines that are a country mile wide. In fact one of our staff members commented that but for the fact that there is a high population density, that Disneyland would even quality for purposes of the siting guidelines. So they provide

no real meaningful assistance. And that is why I feel that the process, we have to scrap it and go back to square one.

Second, the preliminary determination of suitability before the site characteristic studies were completed heightens the suspicion that we have in Nevada that maybe a decision has already been made because the siting guidelines are broad enough to justify just about any kind of conclusion that the Department might reach.

Further, you have had testimony that we have fought tooth and nail to get the funding necessary which all of you contemplated that were responsible for drafting the act to be made available to the State to conduct its independent scientific evaluation.

And the most outrageous and outstanding representation that has been made here and that was made earlier to Congress is that somehow the Department of Energy won that lawsuit. The Department of Energy lost. We fought for nearly 2 years to get the money to conduct that evaluation. Hardly the kind of cooperation which I think, Mr. Chairman, you and your colleagues expected at the time that this very delicate piece of legislation was put together.

Moreover, the statements by the former Secretary of Energy, Secretary Hodel, who was out on the political hustings in 1984 and he said and I am paraphrasing that strong political representation would exclude a State from continued consideration as a repository location adds to the skepticism and indeed the cynicism about this whole process itself.

Now you have been treated during the course of this hearing to some of the evasive colloquy which we have lived with for the better part of 3 years. What I would consider Senator Evans and Senator Ford, who asked some questions in particular, the quick silver responses you just can't get a handle on it. Let me illustrate, if I may.

The postpone indefinitely. I am not familiar with the Senate procedure and the protocol, but I served with—my friend Senator Hecht is a matter of the Nevada legislature for some 10 years, indefinitely postpone is simply a euphamism for killing the action. We indefinitely postpone, as you will recall, Senator Hecht, when we drove that silver stake through its heart, that is how we killed a piece of legislation. So this indefinitely postponed to us is sending a very clear message to Nevada and the rest of the Nation that there is no real intent on going forward with the second tier selection which we consider an abbrogation of one of the fundamental premises which this bill was designed to provide.

Finally, Senator Ford, you had some difficulty in terms of getting an answer as to the amount of waste material that was to go into that site. We, too, have had difficulty repeatedly in getting answers to our questions.

Senator Evans, you asked the question about where in the act do you find the authority for the postponement, the discretionary postponement. May I suggest as a former attorney general, only the most tortured reasoning process would lead to the conclusion that the Department has discretion to postpone that decision. I think very clearly the Congress and the section of the law provides that that process must be ongoing.

And finally, we are treated to the convoluted logic and the double talk on the cost. On the one hand we are told we cannot go

forward with a second tier of siting because it is too expensive. It is too costly. You asked, Senator Evans, well, what about the cost evaluation with respect to your own site in your homestead at Hanford, and you are told that those factors are not relevant.

Mr. Chairman and members of the committee, they can't have it both ways. We are extremely troubled and frustrated and believe that the credibility of the Department and the process by which the decision is made is nonexistent and I would endorse the comments of your colleague, Senator Laxalt, that we have got to go back to square one on this process if we are going to get any equity and any credibility in the decisionmaking process.

Thank you very much.

[The prepared statement of Governor Bryan follows:]

STATEMENT OF

GOVERNOR RICHARD BRYAN

BEFORE THE

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

OF THE

UNITED STATES SENATE

June 16, 1986

Chairman Domenici, members of the Subcommittee, I appreciate the opportunity to appear before you today to discuss a critical national issue--the Department of Energy's decision to abandon the second round of the nuclear waste repository site selection process.

When the Nuclear Waste Policy Act was under consideration in the Congress, it was common knowledge that the Department of Energy preferred several locations in the west, and that the Nevada Test Site was foremost among those preferred sites. However, the Nuclear Waste Policy Act, as passed in 1982, represented a compromise which guaranteed to Nevada and other states that the Department of Energy would thoroughly evaluate all of the sites then under consideration, including the Nevada site, against objective standards, and compare them against all other sites which had been considered. To ensure that there would be regional equity, the Act required that a location for a second repository be identified in a different geographic area of the country than the first repository and that any first repository would be limited in its total capacity, thereby creating a real need for the second repository.

The intent of the enacted statute was to provide a fair system of site selection based on technical judgments, rather than

political ones, with the entire nation participating in the solution to the nuclear waste problem.

But DOE's actual conduct of the nuclear waste program since enactment of the Nuclear Waste Policy Act has fallen far short of what the Act contemplated. In fact, with nearly every action taken, every document published and with every decision made, DOE has systematically unraveled the finely crafted fabric of the Nuclear Waste Policy Act. The unilateral decision to drop the second repository program is the final straw. From the start, DOE appears to have been intent on bending the Act to its own purposes. DOE first deleted the requirement that sites be proved against objective standards by enacting blatantly subjective site selection guidelines despite protests from all of the states. The guidelines were written so that DOE could ratify its pre-Act conclusions without any real measurement of a site's attributes or any fair comparison of those attributes against those of other sites. The guidelines allow comparison of sites about which a great deal was known against sites about which essentially nothing was known. Though the Act required that the guidelines include factors which would disqualify a site from consideration, the guidelines, on application, disqualified nothing.

The decision to make a preliminary determination of suitability is another crucial compromise embodied in the Nuclear Waste Policy Act. The action by the Secretary on the 28th of May, means this determination now is nothing more than a charade to allow the Department to end site characterization with only a

single site that has been prejudged and predetermined to be the lucky winner. This action guarantees that the Department's preselected site, based upon the path of least political resistance, will be the only site remaining after characterization.

The statutory scheme of consultation and cooperation, by which Congress sought to breathe life into the Act has been a casualty of blatant DOE arrogance and an institutional inability on the part of the Department to work cooperatively with affected states. Even after the Ninth Circuit Court of Appeals ruled unequivocally that the State of Nevada--and, by extension, other potential host states--must be afforded broad participatory rights, DOE has continued to frustrate State attempts to fully exercise statutorily prescribed prerogatives. To make matters worse, the Department misrepresented to Congress, in its annual report, that DOE had actually prevailed in the Ninth Circuit case, even though the Court found DOE's actions illegal under the statute. Even after the opinion was rendered, DOE stonewalled Nevada's request for funding and is still equivocating with respect to a portion of the request about the amount of information needed in order to evaluate the State's request. Meanwhile, a meaningless "consultation" goes on with Nevada wherein DOE provides only that information solicited by the State and then blithely disregards any State response.

On May 28th of this year, DOE published environmental assessments on five sites which it chose to nominate as potential candidates for site characterization. (In reaching this crucial

decision, by the way, the Department chose not to compare any of those five sites with others not nominated.) On the same day, without any additional information, and without any comment upon the statutorily required environmental assessments from the State or anyone else, the Department recommended three sites for actual characterization. Nevada was offered no opportunity to comment on the final environmental assessments, nor to be involved in any way in the development or application of the methodology by which three sites would be recommended. In fact, a House committee was even rebuffed by DOE in its attempts to review this ranking methodology, and told by DOE that the Committee would have to subpoena the documents. Nevada had no opportunity to advise the President on the merits of the recommendation or to particpate in the recommendation process in any way. The process used constitutes the most hollow consultation and clear evidence that the department has dropped even the pretense of fairness in the selection process. The Department's real intention is clear for all to see. It seeks only to use the Nuclear Waste Policy Act to ratify long-standing siting preferences and to establish a site selection process that is wholly political.

The history of the attempts by this nation to solve the high-level radioactive waste problem has been riddled by overt political influence. Just 10 years ago, DOE's predecessor agency, ERDA, informed 36 governors that their states contained potential sites. After cries of concern from nearly every one of these governors, the ERDA promptly removed the most politically powerful

states from further consideration, leaving only states such as Nevada. Now DOE has just repeated this exercise again, despite the safeguards built into the Act to avoid such an occurence.

In November 1984, then-Secretary of Energy Hodel, speaking in support of the candidacy of Senator Gramm, told Texans--and the nation--that strong political representation would exclude a state from continued consideration as a repository location. The events of the past several weeks appear to confirm that the Hodel doctrine is still very much alive, and is driving the entire site selection process.

With the abandonment of the second repository program, the compromise upon which the Act was passed is clearly abrogated. The irony, of course, is that the compromise was struck for the direct benefit of many of those same constituents who enjoy the benefits of nuclear power. My constituents and citizens of other western states, who do not use nuclear power, become the victims of not only an abrogated political agreement, but also of a blatantly inequitable and unintended solution to the nuclear waste problem.

It is evident that, notwithstanding the Nuclear Waste Policy Act, the site selection process for the location of a nuclear waste repository is now manifestly political, arbitrary, and capricious. We don't think the site selection system is fair and I would be surprised if any of you think so either.

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If the nation truly hopes to solve the real and pressing problem of nuclear waste disposal, it must eliminate the political influence on the program. The problem is not with the Nuclear Waste Policy Act, but with the Agency charged with implementing it. The DOE has been allowed to let political influence and tampering drive the entire nuclear waste program to date. All of the creative work done by Congress to eliminate such influence has been systematically and intentionally undermined by DOE.

The framework of the Nuclear Waste Policy Act provides for sound, objective site screening decisions to be made upon technical merit, rather than bending to political clout. It is this framework which demands now that the reckless and illegal actions taken by the Department on May 28th of this year be declared null and void, and that we abandon the sites under current consideration in favor of a truly objective national screening process.

If the energy users in the rest of this nation want to continue to rely on nuclear power, Nevadans have no objection. But for them to continue to generate nuclear waste and then to foist it exclusively upon Nevadans is totally unfair.

Mr. Chairman, we in Nevada want the Nuclear Waste Policy Act to work. We have consistently attempted to correct specific defects in DOE's implementation of the Act by working with the Department and, that failing, by recourse to the courts, pursuant to the Act. I suggest, however, that the more aggravated problem of the Department's abrogation of the finely crafted compromise

which allowed congressional action to resolve the nuclear waste problem is something that only Congress can fix. Inactivity on your part only ratifies DOE's actions. This body must mandate a truly technically objective national screening effort, putting east and west on equal footing, guaranteeing that if only one repository is needed in this country, that it be located in the best possible site, notwithstanding pre-Act intentions and prejudgments of the Department of Energy.

Senator DOMENICI. Thank you very much.

Senator Warner.

Senator WARNER. What is square one?

Governor BRYAN. Well, I think Senator Laxalt has raised a threshold question, Senator Warner. That is: Is a geologic depository, is that the only answer? Should we consider as he suggested in his comments deep sea or some other form?

That would be my preference. In my view, the implementation of this act has been handled very poorly, and I know that you and I would differ on that, sir, but you expect candid testimony from witnesses and that is what you are going to get from this Governor. It has been badly handled, notwithstanding the good intentions of the Congress originally.

Senator WARNER. What legislative changes would you recommend?

Governor BRYAN. Well, certainly among the legislative changes—and I don't believe that it really requires a legislative change—is certainly the ongoing process by which the second tier selection process should continue.

I believe it is clear from my reading of the law, although counsel for the Department indicates to the contrary, that clearly it was your intention that that process be ongoing, not indefinitely postponed. That is something that I think is an absolute minimum.

I think we have got to go back, and we don't need legislation to do this, we have got to go back to the original siting guidelines. They are so vague and so fuzzy that they can stand for any proposition which the Department chooses to advocate. Clearly, it was the understanding of those of us who saw the act, who initially supported the act, that those guidelines would have sufficient specificity as to be meaningful; that this type of characteristic would exclude a site from being included and, conversely, that others would by definition qualify for inclusion.

We don't have that. The siting guidelines, sir, are all over the ballpark. They mean virtually nothing.

Senator WARNER. Going back to your observation about the procedure on the second repository, the Secretary clearly said, first, objections to the accumulated waste had fallen considerably below the original estimate.

Do you disagree with that?

Governor BRYAN. I am not in a position to respond in terms of the data base. I do not know. He could be right, Senator. I am not sure that he is.

Senator WARNER. Assume, for the benefit of our discussion, that he is right, and it is confirmed by the best authority we have on the subject which is responsible for making these projections—that is what is driving the need for the United States of America to develop the second site: the need.

The need is not substantiated by the figures. And if the need is not substantiated, why should the United States go ahead and expend these very substantial sums at a time when our deficit is so high?

Governor BRYAN. Senator, as you know, the funding for this particular program in no way impacts the deficit. It is a mil tax levy, as I understand.

Senator WARNER. Now, if we were to go to construction, then it would impact on the taxpayer.

Governor BRYAN. I think that would depend upon what you and your colleague decide is the funding mechanism. It could potentially, but we are a long way from that. My point is that it has no fiscal impact and we certainly understand at the State level and sympathize with the need to get this runaway deficit out of control. But it cannot be argued that going forward with the second tier site selection will impact that adversely is the point that I would make, Senator.

Senator WARNER. Mr. Chairman, I have used my time.

Senator FORD. I yield to the Chairman.

Senator DOMENICI. I have already expressed myself on that.

Governor.

Governor GARDNER. Well, Senator Warner, I believe you were out of the room when I spoke, and I did make some recommendations for specific legislative attention to this matter.

First of all, I suggested that we eliminate the specific statutory time lags. Senator Evans spoke to that earlier. What is 5 years in a process of this importance?

Second, combine the first and second rounds and conduct a nationwide search for the safest repository.

Third, have an independent study and determine if one repository is sufficient; if that should be expanded, or if you do need a second repository.

Fourth, establish a significant role for an independent technical analysis by NAS or USGS.

Senator WARNER. I thank you.

Senator DOMENICI. Senator Ford.

Senator FORD. Thank you, Mr. Chairman.

Governor Bryan, I would be very careful about talking about budget to this committee. It is like the fellow who was at the Johnstown flood, you know, and he died and went to heaven. When he went to tell the story, the Lord told him he could tell it, but Jonah was in the audience.

Senator Domenici is in the audience.

Senator DOMENICI. What are you calling me now?

Senator FORD. You are the Jonah of the Congress as it relates to the budget.

Senator DOMENICI. Well, I don't know if that is a compliment or not.

Senator FORD. Well, you take it that way, will you?

Senator DOMENICI. Thank you.

Senator FORD. And let the record so show.

It is my opinion, then, if I don't want to get into the budget, Governor, that if that fund is not used, it does impact on the budget and it will impact some.

Let me ask you as Governors of Nevada and Washington, if it is determined during the course of your administration that the expenditure of additional State funds, taxpayer funds, is not necessary at that time, yet the legislature had appropriated or authorized a budget, when you determined those funds would not need to be expended, would you go ahead and spend them anyhow?

Governor BRYAN. Certainly I don't think any of us, Senator, and certainly those of us in Nevada, would advocate to this committee or any committee of Congress the wasteful expenditure of funds. I do think, however——

Senator FORD. I didn't say wasteful, now. That is another determination. They were not needed at that time. The survey showed, the facts developed, would indicate that you had more than sufficient funds. You would not go ahead and spend then just because they were in the budget or the legislature told you to go ahead and spend them.

Governor BRYAN. No, I certainly would not advocate that. However, if you accept the premise I am coming from, Senator; namely, that the regional equity is every bit as an essential part of this legislation as the other elements that we have all heard the testimony on, then it seems to me you cannot in effect physically separate one piece from the other. And the regional equity, it seems to me, was a primary consideration for us in Nevada, that no State should bear the ultimate burden of all of the Nation's waste.

That is extremely important, I think, at least from the perspective of Nevada.

Senator FORD. Well, Governor, we have some regional equity involved in MRS'. And just let say this: that if we are going to delay the topside—and that is the No. 1 repository—and you are expecting the MRS' to carry the whole load, or temporary MRS to carry the whole load, then you have got another think coming.

So when you hit that domino, it begins to spill the other way. So I want you to recognize that when you are out there using every means at your disposal to prevent repository in Nevada or Washington or Texas or wherever it might be, others are going to be involved in the MRS.

And if you are not going to accept that responsibility, then the whole load cannot be, in my opinion, with any good judgment, with an MRS. I just want to alert you to that. Once the delay is on top and you begin to push it back, then don't expect the good State of Tennessee, for instance, to sit there and roll over and play dead because you have stopped everything else and they are going to have to carry the whole load.

You have just developed another ghost behind a tombstone.

Governor BRYAN. I appreciate that and obviously it would not be fruitful to get into the burden that each of our States have shared, but very clearly the State of Nevada, for example, has borne the burden, along with the State of Washington and South Carolina, of the low level nuclear repository for many, many years.

Senator FORD. We have one, too, in our State. It has been leaking for years. So I want you to know I have some in interest in this. And we have had it along with the other States.

Governor BRYAN. I don't think yours is active at the present time, as ours in Washington is.

Senator FORD. We had to shut it down because it is leaking or whatever you want to call it. But it sure is creating some problems.

Governor BRYAN. Well, you can appreciate our concern, then, because you have lived with it.

Senator FORD. Don't think you are a lone ranger. So when you start slowing down other things and they start coming back on

MRS, you have transportation and deposits and a lot of other things, I just want to alert you that there is more than one source of problems here.

As you do everything within your power and grab for everything you can find, find every straw and every wind that you can grab hold of to try to prevent this, just remember that you are creating problems for somebody else who is going to react to that.

The toughest problem here and the best statement I have heard yet is it is in the best interests of the country. Now, whenever you make a decision based on that—based on scientific facts is one thing—but when you make a judgment based on the best interests of the country, then you have done the best you can do. And if it falls on Nevada or wherever it might fall, that is regrettable, but nevertheless it has to be done, I suspect.

Thank you, Mr. Chairman.

Senator DOMENICI. Thank you very much, Senator.

Senator Hecht.

Mr. HECHT. No, thank you.

Senator DOMENICI. Senator Evans.

Senator EVANS. Just a couple of questions. I am delighted to have my Governor here, and particularly to reiterate something he said at the beginning of his oral statement and repeated in his written statement.

We did approach the likelihood of a nuclear waste site differently than his counterparts in many other States. We didn't say hell no, not in my backyard. We took the responsible tack, there must be an answer to the high level nuclear waste problem.

I think that that is what ought to guide us all the way through. I think that is what has guided the Congress to a successful conclusion to this act in having it in being in the first place. It never would have passed unless there had been a sufficient realization that this was a nationwide problem and we had to carefully balance all the conficting ideas together and get an answer.

It would have been much easier just not to have an answer than to ignore it all together and to kind of say it is somebody else's problem sometime in the future. So it is, I think, to the Congress's credit and to the Governor's credit that looking for the national solution has been the direction.

I would like to know from Governor Gardner, can you give us any estimate on when you are likely to have a hearing on the suits that are now being brought by Washington State in the Ninth Circuit? What time lines are we facing because of the conflict which now exists?

Governor BRYAN. It is my understanding, if I might respond, Senator Evans, it is my understanding that the circuit court has original jurisdiction of this proceeding, but some months away. I don't think it has been given a date. Seven or eight is what some of our people tell us.

Senator EVANS. Are the States of Nevada and Washington joined in that suit, or are they separate?

Governor BRYAN. They have been consolidated.

Senator EVANS. Have they been consolidated?

Governor BRYAN. Yes.

Senator EVANS. Would you care to predict, looking ahead then, what would be a typical time line before any decision would come down if there continues to be conflict and no agreement on next actions to be taken and carrying the lawsuit through to its ultimate conclusion?

Governor BRYAN. I have argued before the Ninth Circuit, Senator, as attorney general; sometimes it takes several months after the hearing. If one assumes that the hearing is concluded right after it is scheduled as opposed to a further postponement, I think you are looking at up to a year, 10 or 11 months anyway. I don't think you are going to get—you are not likely to get a decision from the bench on an issue as complicated as this.

I would think it would take a couple, 3 months for the decision to come down after the hearing.

Senator EVANS. Have you made any decisions yet, either State, as to what might happen if you were ruled against in the Ninth Circuit?

Governor BRYAN. I think from our perspective, we would want to look at the basis upon which the ruling was made and obviously consider cert to the Supreme Court.

Senator EVANS. How much extra time would that take?

Governor BRYAN. Well, as you know, a cert is a matter of discretion on the part of the Supreme Court. It is not a right that States have, so I would think that you are looking at a period of time of easily beyond a year, I should think, depending upon the timing of the decision on cert, if it is granted, when it would be scheduled for hearing.

If it were denied, then that would exhaust that particular avenue, although there may be others.

Senator EVANS. At this point, with the suit being filed, does that stop essentially any progress from being made?

Governor BRYAN. We have sought declaratory relief as well as injunctive relief, and it is my understanding that things are in a holding pattern; I don't know for what period of time.

I think perhaps Mr. Rusche can respond to that.

Senator EVANS. If that were to be given, then there is the—I mean this alternative, as opposed to an alternative that would find some amenable solution on which people could join, could have the effect of delaying everything that is now being done for up to two years.

Governor BRYAN. I think easily, if not beyond. I think two would be rather the short end of it.

Senator EVANS. Governor Gardner, what is the current status of negotiation between the DOE and the State of Washington on the Consultation and Cooperation Agreement?

Governor GARDNER. We were making progress until recently and now it's just gone dead in the water.

Senator EVANS. Would you judge that that—I know there was a strong effort on the part of the State to proceed ahead on the basis that that was the preferred course of action, to try to get some document of agreement where the State and the Federal Government would have some idea of the responsibilities of each and how they could best cooperate.

How long had that been under negotiation?

Governor GARDNER. We started in about 1983 or slightly before

Senator EVANS. And it is now on hold?

Governor GARDNER. (Nods in the affirmative.)

Senator EVANS. Do you think, either of you, in terms of a proposal which would declare a moratorium and rebroaden the search and make a new determination as to whether a second site was needed or not as an independent element of that, that that could be done with essentially a clean slate?

Or do you think that the mechanisms are already so skewed by the determinations that have been made that they would just come right back to the same decision?

Governor GARDNER. No. I believe if they restarted the process and included all potential sites in a single selection process, followed some of the suggestions which we have made, and allowed—and perhaps that is the significant aspect of this—allowed independent scientific oversight on this, so that their methodology, ranking methodology, and other methodologies would have some purview other than their own, I think that we could probably restore public credibility in this process.

Governor BRYAN. I am not sure that I would be as optimistic as my collegue. We really feel that we have been had, Senator, quite candidly. It has not been a good relationship. I do not fault the Congress. I think the act contemplated a spirit of cooperation and from our point of view, when you have had to file suit not once, but on other occasions, that does not set prospectively a very good path to follow.

I am not sure that we would have that kind of confidence.

Senator EVANS. And those lawsuits were primarily on the basis of attempting to get sufficient action or sufficient money or sufficient ability to consult. I guess I heard from, I think Governor Bryan, the master/servant relationship.

In your view, in either State has there been that feeling that you are a partner in the process?

Governor BRYAN. Certainly from our point of view it is not. It is a little bit like the teen-aged boy asking his father for the car on the weekend. I mean there is some colloquy, but you certainly don't feel that there is any kind of parity in terms of the relationship.

I think it is important, Senator, if I may—I don't want to give the impression that this is only Nevada. I am sure that Governor Gardner would not want to give the impression it is only the State of Washington. A number of States initially had major concerns about the siting guidelines.

As I tried to address, I believe there were some 11 States that joined with us in raising the same kind of objections, many with more specificity than I have as to the process itself on the siting guidelines. We were not pleased with that, and we believe that that got us off on the wrong foot to begin with.

Senator HECHT. May I say just one thing, Mr. Chairman?

Senator DOMENICI. Of course.

Senator HECHT. I, too, appreciate our Governor flying in and am happy to have you here today, Dick. If by some chance that Mr. Rusche on the way to the post office might lose his way and you

don't get your check in due time, please notify us and we can contact him.

Governor BRYAN. I appreciate that. It is not often that we get a Senator to expedite delivery on a check, and we appreciate that, Senator.

Senator DOMENICI. Who is sending the check? [Laughter.]

Senator HECHT. Ben is sending the check.

Senator DOMENICI. They may send it to the wrong place. Well, Ben won't, but some of these agencies around here do.

Senator HECHT. I will personally deliver it, Ben, OK?

Senator DOMENICI. Are you all finished?

Senator HECHT. Yes, we haven't gotten the check yet.

Senator DOMENICI. Frankly, aside and apart from the newest flap that has come into being with reference to the second site, second round for second site selection, that the provision in this law which is most important is the consultation and cooperation part of this.

Frankly, I believe, might I say to the Governor from Washington—and I believe your State agrees—that even the outside technical evaluation, outside scientific, totally independent type of evaluation clearly is contemplated as being part of an agreement.

I believe every single phase, long before construction, where a State wants a scientific input, a decision made on health and safety standards, that that consultation and cooperation agreement can so provide. I believe the State of Washington was making some headway.

I believe from my being briefed, they had a problem with liability, Price Anderson I think they understood that you could come up with the milestones and define them yourself and in each one of those, before a decision is made, this consultation and cooperation agreement would come into play. You would be as much a part of what that was, who it was and how the decision was made as your Government, the Federal Government.

I remain absolutely convinced that unless a State clearly indicates that they have some interest in consultation and cooperation, I truly believe for me, one Senator, it is kind of prima facie evidence that they really don't want to do anything, because I believe it provides safety and protection at every phase.

I even believe it could be used to go back and look at the very basis for the original selection. I don't see any reason why that cannot be part of this agreement, because that has to have some impact. The impropriety of the site selection, if one was made, will show up as you proceed through the independent agreement.

Maybe we are just a little bit more optimistic about it than others because we have one in our State and it has worked admirably with reference to low level transuranic waste, with reference to the scientific team that makes it up. I gather you have looked at it carefully, Governor, for the State of Washington. I gather Nevada has not worked on it very much, is that correct, or have you, Governor?

Governor Bryan. Senator, we have sought cooperation from the Department of Energy. I would not want to give you the impression that we have not. My point was that we do not feel that we have had a reciprocal cooperation on their part in terms of information and funding—not just the funding, but the information as well.

Senator DOMENICI. Governor, I am not referring to cooperation. I am not arguing with you that you should have been funded and did not get funded. What I am talking about is the statutory consultation and cooperation process which finds itself at least in three stages: first, negotiating; second, entering into a written agreement; and third, implementing the written agreement that is not forced on anybody, but entered into voluntarily, that protects the State as a possible host State, with a series of agreements that stop everything.

You know, you get through one sip of water and you stop. And the agreement provides for what is done next. Now, with reference to that, your State has not proceeded to negotiate on that; is that correct?

Governor BRYAN. We have certainly had some colloquy. Let me make sure that I don't make a misrepresentation, Mr. Chairman.

[Pause.]

Governor BRYAN. No, we have not reached the preliminary stage. You are correct.

Senator DOMENICI. I thank you very much. Unless the Senators have anything further, we thank both of you for coming here and for your time.

We will take the public witnesses now.

Mr. Steve Frishman, director of the Texas Nuclear Waste Programs Office; Mr. Gordon Dickie, chairman, Menominee Tribal Legislature; and Mr. Russell Jim, manager of the Nuclear Waste Programs for the Yakima Indian Nation.

Mr. Frishman, would you start? Then Mr. Dickie and then Mr. Jim.

STATEMENT OF STEVE FRISHMAN, DIRECTOR, TEXAS NUCLEAR WASTE PROGRAMS OFFICE

Mr. FRISHMAN. Thank you, Mr. Chairman.

My name is Steve Frishman. I am director of the Texas Nuclear Waste Programs Office. Governor White has asked me to convey his personal regrets that his schedule did not permit his appearance today.

We do appreciate your holding this hearing on this very important topic now and I think you will find that the summary of my testimony here will have a very familiar ring after listening to both Governors Gardner and Bryan.

The recent decision by the President to accept the recommendation of the Secretary of Energy of the three sites as candidate sites for the Nation's first high level nuclear waste repository and the accompanying announcements and document releases have caused a great deal of concern in Texas and from what we see today nationwide, about the integrity and the credibility of the nuclear waste disposal program as it is being implemented by the Department of Energy.

Throughout the history of implementation of the act, we have expressed our concerns, and here in the past as well, to congressional committees not only as they relate to the specifics of DOE's program in Texas, but also in the context of whether the purposes of the act are being accomplished in a manner that will lead to reach-

ing the goal of safe and acceptable permanent disposal of the Nation's high level waste.

The final actions of the President and Secretary on May 28th have served to both magnify our earlier stated concerns as well as cause us to broaden the scope of our continued evaluation of whether the DOE's implementation of the act is in fact serving the purposes and goals of that very complex and intricately balanced piece of legislation.

We have provided written testimony that, with your permission, will be entered into the record.

Senator DOMENICI. Without objection, we will make it part of the record.

Mr. FRISHMAN. Thank you.

I will focus on one of the number of issues of concern that we have explored within that testimony and which is the basis for your having called this hearing.

The Secretary's decision to defer site-specific studies for a second repository has cast the entire NWPA Program in a significant new light. Two major issues arise from this action that require, from our point of view, a thorough public consideration before the DOE should be permitted to progress any further in its effort to address the nuclear waste disposal mission of the act.

The first is whether the decision to defer the second repository complies with the requirements and intent of the act. And the second is whether this decision so weakens the repository program and shatters public confidence in the integrity of the program that it has become unlikely that this long-term, extremely costly program will succeed in arriving at a safe and acceptable high level nuclear waste repository in the foreseeable future.

With regard to whether a decision to defer the second repository studies meets the requirements and intent of the act, it seems quite clear that the schedule and carefully considered sequence of the act is being violated.

This is not the first time that the sequence of the act has been violated at great cost to the public's confidence in the integrity of the program. It also seems quite clear that the intent of the act has been violated in at least the following two ways:

The DOE's ostensible reason for the deferral decision is that the need for a second repository may not arise as envisioned at the time of passage of the act. Yet, by using this line of reasoning, it seems clear that the DOE is usurping decision that the Congress has expressly reserved to itself—and this is all very familiar. You have heard this and expressed it a few times today.

By clearly not authorizing the construction of a second repository, the Congress has stated that the needs determination will be made by the Congress itself at the time a second repository is proposed.

Second, the decision can be viewed to suggest that there is an assumption on the part of the Department that the Congress will take a favorable view of amending the Waste Policy Act at some time in the future to permit a single greater than 70,000 metric ton repository to serve as the Nation's only facility.

This tips the delicate regional balance that was of considerable importance in the passage of the act and has been discussed considerably already here.

The deferral decision from our perspective also tremendously weakens the possibility of success at arriving at a safe and acceptable repository in the foreseeable future. The second repository deferral represents the DOE's rejection of what may be the final insurance available to assure the timely existence of an operating repository.

Other insurance has either been rejected earlier by the DOE or cannot be assumed to be available, such as the MRS. By the apparent assumption that the current three candidate sites will in fact result in a licensable repository and the rejection of available and recommended backup plans, the DOE is shattering the public's and our confidence that the DOE program is a scientifically based program of investigation in search of a safe disposal site.

It further casts a great cloud over the confidence of the public in the regulatory program of the NRC that is intended to make an independent determination of the safety of whatever site is brought forward by the DOE.

The DOE's assumption, even at this early stage of investigation, is simply that any of its candidate sites is licensable and it will make a repository out of one of the sites, even though knowledge of all the potential sites is still very limited.

Now, in conclusion, as we have recommended in the past and as you have heard today, our view is also that it is time to halt the progress of the DOE implementation of the Nuclear Waste Policy Act in order to evaluate in a timely and cost-effective way whether the program needs significant redirection now, before so much effort and money is expended that there is a great reluctance to even consider redirection.

It is our view in Texas that a new objective set of site selection criteria should be developed and then applied in a comprehensive screening of the entire Nation. The results of the screening should then be entered into candidate site nomination recommendation process to return to the point at which the program now exists within the sequence of the NWPA.

I have been speaking for the last year or so in terms of that entire process probably not taking more than about 5 years. I am quite gratified to hear Mr. Rusche finally respond to the single question—how long do you think it would take—and respond in terms of at least beginning in his thinking at about 5 years.

The time and money expended by the redirection is clearly justifiable when viewed in the context of the Nation's need for safe, timely, acceptable and cost-effective high level nuclear waste disposal.

Thank you.

[The prepared statement of Mr. Frishman follows:]

Testimony of

Steve Frishman, Director
Texas Nuclear Waste Programs Office
Office of the Governor
Austin, Texas

Before the
United States Senate
Subcommittee on Energy Research and Development
of the
Committee on Energy and Natural Resources

Regarding Implementation of the
Nuclear Waste Policy Act of 1982

June 16, 1986
Washington, D.C.

I. INTRODUCTION

The recent decision by the President to accept the recommendation of the Secretary of Energy of three sites as candidate sites for the nation's first high-level nuclear waste repository, pursuant to the Nuclear Waste Policy Act of 1982, and the accompanying announcements and document releases by the Secretary have caused a great deal of concern in Texas, and nationwide, about the integrity and credibility of the nuclear waste management and disposal program as it is being implemented by the Department of Energy.

Throughout the history of implementation of the NWPA, we have expressed in testimony before numerous Congressional committees our concerns not only as they relate to the specifics of the DOE program in Texas, but also in the context of whether the statutory purposes of the Act are being accomplished in a manner that will lead to reaching the goal of safe and acceptable permanent disposal of the nation's high-level radioactive wastes. Many of our earlier stated concerns have only become more greatly magnified by the May 28, 1986 decisions and announcements of the President and Secretary. These final actions have also served to broaden the scope of our continued evaluation of whether the DOE implementation of the NWPA is serving the purposes and goals of that complex and intricately balanced piece of legislation.

In this testimony, we discuss, with some specific examples, what appears to be a culmination of a continuing breakdown of the explicit as well as intended fostering of consultation and cooperation among the DOE and affected parties; we further describe the basis of two of our major concerns regarding the naming of a candidate site in Deaf Smith County, Texas, that have yet to be fairly or adequately treated in the implementation of the NWPA; and, we review our perspective of the implications to the NWPA program of the DOE's constriction of the program to the extremely narrow focus of three candidate repository sites. By way of conclusion, this testimony restates a recommendation we have been expressing to the Congress for more than a year regarding a means of greatly improving the possibilty of achieving the purposes of the NWPA in a timely, safe and efficient manner at a time when it is feasible to significantly redirect the implementation of the NWPA program.

II. Consultation and Cooperation Concerns

1. Final Site Characterization Decision

Recent activities of the Department of Energy relating to the final selection of three sites for characterization offer significant examples of the inadequate implementation by DOE of the Consultation and Cooperation provisions of the Nuclear Waste Policy Act. When the draft environmental assessments were released in December of 1984, the affected States and Indian tribes as well as individual citizens and organizations interested in the issue requested extension of the 60 day period allocated by DOE for review and comment on these documents. The request was prompted by the overwhelming task of reviewing nine separate environmental assessments each

consisting of approximately 1,000 pages of data, text and analysis. The Department of Energy declined to grant the 90 day extension requested pointing out they would otherwise be unable to release the final environmental assessments in late June of 1985 as planned. This argument notwithstanding the Department then granted themselves numerous extensions of the deadline for release of final environmental assessments, totaling approximately eleven months, prompted by the overwhelming task of reviewing the thousands of pages of comments received. In the course of these multiple extensions which DOE granted itself, we became concerned that the final site characterization decision and the release of environmental assessments could occur at any time and without sufficient notification to allow affected parties sufficient time to prepare for the releases. We therefore requested from DOE, and DOE prepared a plan for 30 days notice prior to release of the final decision and the final environmental assessments. In seeking written confirmation of that plan, we wrote three letters to the Department of Energy requesting such confirmation but received no answer to any of the letters, dated February 18, 1986, April 4, 1986, and May 12, 1986, and furthermore found through discussions with DOE staff that the Office of Civilian Radioactive Waste Management was beginning to hedge on the 30 day prior notice plan. As late as mid-April, DOE indicated it was planning to provide about 2 weeks notice of the release date. In spite of DOE's growing reluctance to provide notice prior to release of these decisions and the environmental assessments, we at least expected that the Department would comply with the provisions of the Nuclear Waste Policy Act which specify that the Governor and Legislature of states containing sites to be nominated are to notified prior to that nomination. Disappointingly, the Secretary chose to ignore that requirement of the NWPA (Sec. 112(b)(1)(H)), and we were officially notified less than

30 minutes prior to the public announcement by the White House that DOE had nominated five sites, recommended three sites to the President, and that the President had accepted those recommendations which were only transmitted to him by the Secretary the day prior to the May 28, 1986 announcement. Furthermore, in checking with the leadership of the Texas Legislature, we were advised that the Texas Speaker's Office was not notified until after the announcement was made by the White House. This example of DOE's lack of concern for consultation and cooperation, or even courtesy, with the affected states and Indian tribes clearly justifies our earlier persistent but unsuccessful attempts to obtain a written commitment from DOE requiring prior notification to the affected states and tribes of the pending announcement of the site characterization decision and release of the environmental assessments.

2. Site Screening Methodology

Yet another element of the high-level waste program in which we find serious consultation and cooperation deficiencies involves the site screening methodology developed by the Office of Civilian Radioactive Waste Management to effect the screening of the original nine potential sites around the country to a slate of five sites for nomination and three sites for recommendation. The draft environmental assessments released in December, 1984 presented a hybrid screening technique involving the combination of three separate screening methodologies. Based on overwhelmingly negative response to that technique received by the Department of Energy in comments on the environmental assessments, the Office of Civilian Radioactive Waste Management chose to rely instead on a single methodology -- the so called multi-attribute utility

analysis. In agreeing to redo the site screening portions of the environmental assessments, the Department of Energy announced that the National Academy of Sciences' National Research Council Board on Radioactive Waste Management had agreed to review the screening methodology and that the Department of Energy would publish the NAS report review as an appendix to the final environmental assessments. (The NAS report was not appended to the EAs but rather to an obscure methodology document released at the time of release of the final EAs.) This promising announcement was, however, accompanied by the disturbing decision by DOE to bar the affected parties from participation in this analysis and even from observing the interactions between the Department of Energy and the National Academy of Sciences Board on Radioactive Waste Management. Our displeasure with this development was somewhat mitigated by the commitment by OCRWM Director Ben Rusche that at the conclusion of the NAS deliberations and with the completion of their final report, the affected and interested parties, including an interested House Subcommittee, would be provided all information and documentation which had been presented to the National Academy of Sciences. However, even that modest concession to the affected states and tribes was withdrawn after completion of the NAS report, and we were provided no comprehensive discussion of the NAS work or the DOE prepared basis for that work until the release of the final environmental assessments and site characterization decisions on May 28 of this year. In the absence of any opportunity to review or participate in the site screening activities of the Department, we have undertaken our own independent analysis of the screening methodology employed, and are not satisfied that there is a professional consensus on its merit in assisting the types of decisions to which it was applied by DOE. Furthermore, DOE's application of the methodology did not fully adhere to the professionally accepted principles of its application.

Since August 1983, governors and tribal leaders of affected states and Indian tribes have collectively sought active consultation and participation in the development of a methodology for the ranking of potential sites. These requests have been uniformly rejected and rebuffed by DOE program managers throughout the DOE's history of development of a site ranking methodology.

3. Grant Negotiations

The Texas Nuclear Waste Programs Office has over a recent period of about one year attempted to negotiate a new and more comprehensive grant agreement with the Department of Energy to incorporate the broader scope of work anticipated to be necessary to monitor and participate in the high-level waste investigations in Texas. The advisability and utility of negotiating a new grant agreement is perhaps best illustrated by noting that the grant under which we are currently funded was prepared in late 1982 and specified federal funding of approximately $200,000. Through numerous extensions and modifications, that grant remains the operative document for funding of the Texas Nuclear Waste Programs Office and accounts for total grants to the State of Texas, to date, of approximately $1.5 million. Now that a site in Texas has been designated for characterization, it is imperative that the existing grant proposal with the Department of Energy be re-negotiated and we are now about to re-initiate that process, hopefully with an improved level of cooperation from DOE headquarters managers.

The draft proposal negotiated with the Salt Repository Project Office was forwarded to DOE headquarters in Washington where it was generally viewed as being broadly unacceptable, primarily as a result of the Department's apparent inability to make definitive and legally acceptable interpretations of its own grant guidance. Various reasons for that rejection were suggested verbally during the review session at headquarters but we never were provided a written critique identifying the specific substantive deficiencies of that proposal and suggesting remedies which would be acceptable to headquarters. We view the delays and insubstantial responses from DOE headquarters on this document, which provides the fundamental financial basis for Texas' continued oversight and monitoring of the high-level waste program, to be another sad example of the failure of cooperative federalism envisioned by Congress in the development of the Nuclear Waste Policy Act.

4. Barge Transportation Study

Yet another example of the breakdown in the consultation and cooperation process between the Department of Energy and the State of Texas involved the preparation of a study of the possible use of barges for transportation of spent fuel and high-level waste. Without even minimum notification of their plans and certainly without consultation and cooperation, the DOE and/or their contractor for this study arbitrarily selected Houston, Texas as the debarkation point for all barged spent fuel shipments from nuclear power plants on or near the Atlantic Coast. Then, with the study essentially complete DOE notified us of its pending release. We were amazed at the enormity of this oversight and chagrined at DOE's insensitivity in planning to release this unexpected report just prior to release of the EAs. The citizens in the Houston area have been burdened with reports of several radioactive material management

incidents. We would have gladly shared this information with DOE with the aim of averting an untimely and potentially vehement reaction in Houston to what might be considered an arbitrary and inadvisable choice of an inappropriate debarkation point for the barge study. Upon our request, we did receive a copy of the report for our review, although it was considered to be a completed report by the DOE. We are now in the process of reviewing that report, and have already identified at least one fundamental deficiency involving the use of an averaged national data base, rather than port-specific data in the evaluation of some risk elements.

5. Land Acquisition

The development of procedures for land acquisition by the Department of Energy is an area in which we have substantial concerns as well as one which has presented consultation and cooperation problems similar to those already described. Because the entire area of both potential Texas sites is in private ownership, and actively employed in agricultural production, we explicitly requested in writing in mid-1984 that the Salt Repository Project Office fully inform the Texas Nuclear Waste Programs Office of activities in this issue area. In spite of that explicit written request, the Department of Energy negotiated and signed an interagency agreement with the U.S. Army Corps of Engineers for information services on land acquisition procedures assuming that land acquisition would be performed according to regulations of the Corps of Engineers. Even though we were engaged in continuing discussions with the Salt Repository Project Office on this matter, the Texas NWPO was not provided a copy of that initial interagency agreement until over a year after it was signed. We are continuing negotiations with the SRPO on the more explicit draft interagency agreement

with the Corps of Engineers, and after two years of negotiation and numerous exchanges of correspondence have only managed to convince the SRPO to add two sentences to the interagency agreement, one of which we have noted to be an incorrect statement and the other of which is only partly satisfactory. In our ongoing negotiations, a fundamental position is that the Department of Energy should not and cannot accept verbatim the comprehensive regulations of the Corps of Engineers for application in acquiring private land needed for the high-level waste project since many are discretionary and not appropriate to the DOE program. Yet the Department of Energy continues to assure us that only the "applicable" Corps of Engineers regulations will be used and that it is not necessary to be fully conversant in those regulations prior to agreeing to their application. We have unmistakeably conveyed to the SRPO that we do not view all of the Corps of Engineers regulations as applicable, or necessary in the context of the NWPA program, yet the DOE has on several occasions cited those very regulations as prohibiting them from incorporating certain of our suggestions, such as granting first right of refusal to the previous owners from whom land was taken should the land prove to be unnecessary for the high-level waste program in the future. We have also requested that the Department of Energy include in the interagency agreement an explicit requirement that the Corps of Engineers provide specific revelant information to land owners whose land is subject to condemnation regarding the owners' rights and privileges under the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act. The SRPO has cited, in response, portions of the Corps of Engineers regulations which purportedly require provision of such information. Upon careful examination by our staff we find that the cited regulations do not, in fact, address our concerns regarding necessary and lawful fair treatment of the owners of land within the potential repository site.

III. Selected Technical Concerns Regarding the Deaf Smith County Site

1. Salt Contamination

The area of the Texas Panhandle in which the Deaf Smith County site is located has already been identified as one of the most prolific agricultural regions in the nation. Deaf Smith County consistently ranks in the top two agricultural producing counties in Texas and in the top ten agricultural producing counties in the nation. Because of this tremendous agricultural production and the damage salt can do to the area's prime farmland we are extremely concerned about the Department of Energy plans for management of salt removed from the proposed site characterization facility and even more concerned about similar management of the much larger quantities of salt should a repository be constructed at that site. In the case of site characterization the Department of Energy plans to store on the surface at the exploratory shaft facility 185,000 cubic yards of salt and salt contaminated rock. The Department of Energy intends to simply pile this salt on the surface with no covering of any sort and leave it there until the end of site characterization. If the site in Texas is not selected for characterization, only two-thirds of the materials mined can be replaced in the underground workings with the remainder to be disposed of in some other manner. One totally unacceptable option proposed by DOE consists of simply burying the salt on-site. All the other options involve transportation of the salt spoil off-site, which would amount to about 3,100 truck loads of this material.

Our concerns include dispersion of the stockpiled salt during site characterization activities by wind erosion and percolation of salt-contaminated rainwater into the soil at the site making it unusable for future crop production. In the discussion of salt management in the recently completed environmental assessments the Department of Energy

asserts that stored salt without covering quickly develops a crust which is extremely hard and impervious to penetration of additional rainwater. We find in this environmental assessment, however, no indication that the Department of Energy is familiar with the frequent intense dust storms which occur in the Texas Panhandle and are capable of eroding even the painted finish from automobiles. We doubt that the so-called hard crust of this massive salt pile can withstand these extremely abrasive conditions.

Our concerns regarding the possibility of a full scale repository at this site in the Panhandle are similar but significantly heightened by the vastly greater quantities of salt spoil to be managed. In the case of a repository, the Department of Energy estimates that approximately 4.75 million tons of salt spoil would be stored in a surface stockpile with no covering. An additional 16.3 million tons of salt which cannot be placed back into the repository facility would be either buried on-site or transported off-site for disposition. The potential for ruining vast areas of extremely productive cropland renders the on-site disposal option unacceptable. On the other hand, transportation of the excess salt spoil off-site would amount to a calculated 872,000 truck loads of this material. To put this figure in perspective, this amounts to a truckload of salt leaving the facility every 5 minutes during eight hours a day, five days a week for over 35 years.

One of the Department of Energy proposals for disposition of excess salt spoil is simply selling it on the open salt market in the United States. The inadvisability of that approach is perhaps best indicated by noting that the sixteen million tons of salt to be disposed would amount to approximately 40 percent of the total U.S. salt

production in 1980. Flooding the commercial market with this quantity of additional salt has obvious serious market implications which the Department of Energy has totally ignored.

Salt contamination of this prolific agricultural region cannot be tolerated. The cavalier assertions of the Department of Energy that the salt contamination resulting from their operations is relatively small and of itself should not render crop lands unusuable offers little consolation. There are other sources of salt contamination, such as normal crop irrigation, and that fact in conjunction with recognition that the net evapotranspiration rate in this area of the Panhandle is negative, leads to the conclusion that every grain of salt increases the cumulative salt burden on the prime farmland of the area. This expected gradual deterioration of the productivity of private farmlands surrounding the proposed repository site is an unacceptable intrusion on the already fragile condition of the area's farm-dominated economy.

2. Groundwater Protection Standards

The Environmental Protection Agency's Final Rule (40 CFR 191) setting environmental standards for the management and disposal of spent nuclear fuel, high-level and transuranic wastes, that was published September 19, 1985, has had a long history of evolution since the Proposed Rule was issued for public comment in December, 1982. After the close of the Public Comment period, there have been numerous working papers that have ultimately resulted in substantial changes in the rule which we and other interested parties had no formal opportunity to review and comment upon. DOE, however, did have a continuing set of interactions with the EPA in the finalization of the Rule, with some of their positions appearing to have ultimately prevailed.

Of great concern to Texas in the development and finalization of the EPA Rule has been how the rule addresses the matter of protection of groundwater at and around repository sites. The final rule has introduced groundwater protection requirements but then has taken excessive liberties in the applicability of those requirements to the extent that they appear to not apply to the valuable and limited waters of the Ogallala and Santa Rosa Aquifers at the DOE's identified potential sites in the Texas Panhandle. This giving with one hand and taking away with the other (which is epidemic in the final rule's substantial changes) is exemplified in the newly introduced definition of "Special source of ground water" [Sec. 191.12(o)]. The definition is as follows:

> "Special source of ground water," as used in this Part, means the Class I groundwaters identified in accordance with the Agency's Ground-Water Protection Strategy published in August 1984 that: (1) Are within the controlled area encompassing a disposal system or are less than five kilometers beyond the controlled area; (2) are supplying drinking water for thousands of persons (emphasis added) as of the date that the Department chooses a location within that area for detailed characterization as a potential site for a disposal system (e.g., in accordance with Section 112(b)(1)(B) of the NWPA); and (3) are irreplaceable in that no reasonable alternative source of drinking water is available to that population.

The application of this definition appears in Section 191.16 of the Rule, entitled "Ground water protection requirements", which establishes quantitative standards for radionuclide concentrations in a "special source of groundwater". If the definition is

strictly applied there are some problems that emerge to the extent that the waters of the Ogallala and Santa Rosa Aquifers, which meet the definition in the Rule of "Significant source of groundwater", will be unprotected in the controlled area and within the five kilometer radius beyond the controlled area. First, the Ground-Water Protection Strategy does not provide clear protection of very small water systems nor does it apply to individual-use private supply wells, therefore, the major, irreplaceable water source in the vicinity of the DOE's identified sites exemplifies a fundamental flaw in the classification adopted by reference to the Ground-Water Protection Strategy. And, second, the qualification of the definition to supplying drinking water to "thousands of persons" is a bold and unsupportable contradiction of the intent of the Safe Drinking Water Act, which seeks to have any supply system that serves at least 15 connections or 25 persons subject to protection standards. Interestingly, the "thousands of persons" standard seems to be a result of DOE negotiations with EPA over the final rule, after the public comment period closed. In a September 18, 1984 meeting between representatives of DOE and EPA, DOE was apparently seeking to further weaken, through an erroneous assertion, the intent for applicability of the Safe Drinking Water Act, and the EPA's interim drinking water standards (40 CFR 141). The obvious reason for the DOE effort was to relax ground water protection standards to the point that the Final Rule would not be applicable to existing DOE identified sites underlain by "significant sources of groundwater", such as the Deaf Smith and Swisher County sites in Texas. The summary of the pertinent ground water requirement comment on September 19, 1984, appears as follows in the minutes of that meeting (identified as II-E-31 in the EPA Docket Number R-82-3): "Risk levels based on large population assumptions (EPA's interim drinking water standards - 40 CFR 141) inappropriately applied to low population/intrusion scenario." The interim drinking water standards

are intended for application at the minimum level stated above, and DOE is inappropriately attempting here to reinterpret that intent to serve its own singular purpose without regard to the fact that it represents a significant weakening of an already weak regulatory framework with respect to protection of ground water sources accessed primarily by individually owned supply wells.

In Texas, as you are aware, our concerns about the DOE's identified sites arise from some major concerns in the areas of geotechnical evaluation and potential adverse socioeconomic impacts - both of which have direct and indirect ties to the necessity to protect the underground water supplies available from the Ogallala and Santa Rosa Aquifers. The vast agricultural production of the Texas Panhandle is dependent on available high-quality water from these aquifers for irrigation and human and livestock use. Deaf Smith County, which contains one of the three sites DOE has proposed for site characterization, and from which DOE expects to select a high-level waste repository site, is consistently ranked second in the nation in cash receipts for crops and livestock, is a portion of the Texas Panhandle area that provides upwards of 85% of the world's supply of hybrid sorghum seed, and the particular site encompasses one of a number of contiguous sections (square miles) of a nationally unique foundation grain seed farm that significantly enhances this nation's wheat production capability. Our concerns about the validity of DOE even continuing to consider the two prime farmland sites in Texas become even more acute when we see DOE attempting to "protect" its sites that were identified prior to finalization of the EPA high-level waste rule, by attempting, with some successes as indicated above, to manipulate the standards under which it must substantiate a reasonable assurance of compliance. We are even further concerned about DOE's intent and technical credibility when faced with another of DOE's

objections summarized in the same meeting minutes identified above regarding ground water protection requirements in the developing EPA Rule. The summary of that DOE comment to EPA is as follows: "Difficult to demonstrate compliance analytically - Predictive uncertainties highest during the first 1,000 years during which requirements apply." This gives us no confidence in DOE's assurances that the irreplaceable ground water in the vicinity of Texas sites can be protected, and makes us even more firm in stating that the sites and their vicinities should not be subjected to the potential risks of the DOE waste repository program when the exercise is not necessary at these particular sites, and especially when the sites carry some probability of not being suitable for an acceptable license application to the NRC regardless of the minimum radionuclide concentration standard of the EPA, even if it is established to be applicable to the sites.

The EPA has caused us additional concern about the Final Rule relative to the agricultural base of the Texas Panhandle sites and their vicinities. In an apparent attempt to inject a guise of objectivity into the rationale for the Rule, when the sites under consideration by DOE were well known, and the major existing site selection issues had already been identified, EPA analyzed, in its Background and Information Document for the final Rule, the potential exposure effects of ingestion of food raised on irrigated land. While knowing that the Texas sites are irrigated entirely by groundwater from the Ogallala and Santa Rosa Aquifers, the EPA chose as its standard of analysis a percentage close to the national average of river flow diverted as a source for irrigation, and essentially ignored the more concentrated groundwater source case, thus providing highly diluted projections of exposure that do not address the real situation that could exist from contaminated groundwater in the vicinity of the sites.

With the DOE's having incorporated the EPA Rule 40 CFR 191 into its guidelines for recommendation of sites, based upon the early assumption that the Final Rule would be substantially the same as that proposed in 1982 (which has proven to be an incorrect assumption), and then EPA affording DOE the opportunity to uniquely influence the substance of the Final Rule, two principle questions come to mind. First, does the EPA Rule adequately protect the environment based upon objective and conservative standards, or does the Rule simply serve to protect the continued viability of DOE's potential candidate repository sites that were identified long before the substance of the Final Rule was established? We, unfortunately feel that the Final Rule represents a back-fitting of the standards to the sites, at least in the area of ground water considerations. And second, does the EPA Rule, in conjunction with the DOE's site recommendation guidelines, provide the Secretary with a basis to comply with the requirements of Section 124 of the Nuclear Waste Policy Act, regarding the need to give full consideration to whether the DOE's repository program activities require acquisition of water rights that will have a significant adverse effect on the present or future development of the area of a repository, and, if so, can the adverse effects be mitigated maximally? Again, we feel that there has been a failing, as the EPA Rule virtually assures that DOE can use the ground water at the vicinity of the site as a temporary contamination dilution medium with no requirements to clean up contamination that may adversely impact the agricultural development and use of the area, i.e., no intent to mitigate the adverse effects.

IV. Implications to the NWPA Program of May 28, 1986 decisions and announcements of the President and Secretary

Aside from the DOE release of final Environmental Assessments and nominations of five candidate repository sites, and the recommendation and acceptance of three sites for site characterization, the Secretary of Energy's decision to defer site-specific studies for a second repository has served to cast the entire NWPA program implementation in a significant new light. Two major issues arise from this action that require a thorough public consideration before the DOE program is permitted to progress any further in its effort to achieve the waste disposal mission of the Act.

First, the question arises: Does the Secretary's second repository deferral decision comply with statutory requirements and the intent of the Congress in enacting the NWPA? The answer seems quite clear that it does not comply with the specific schedule requirements for identification of candidate sites, which would lead to a Congressional determination of the need to authorize construction of a second high-level nuclear waste repository. In addition, the ostensible basis for the Secretary's decision to defer his compliance with the logical progression of the Act is that the need for a second repository may not arise. This not only usurps the authority of the Congress, since it reserved to itself the needs decision by withholding NWPA authorization to begin construction of a second repository, but it also assumes that the Congress, at some time in the mid-1990's may be convinced to amend the NWPA to authorize a single national repository with a capacity of greater than the statutory 70,000 metric tons. To make such an assumption, the ongoing planning and design work for site characterization and a repository facility must now

incorporate the possibility of a repository of greater than 70,000 metric ton capacity. Since the NWPA authorizes only one repository for construction, and prohibits the NRC from granting a license for a first repository of greater than 70,000 metric ton capacity, until there is a second repository, the question arises as to whether the first repository authorized funding permits expenditures in the area of planning and designing a larger repository. Also, from the technical standpoint, the DOE has no current knowledge of whether any of the three candidate sites are of suitable size for a 70,000 metric ton repository, and certainly cannot assume at this time that a further significant criterion for repository site study and selection should be whether, on the basis of detailed site characterization, the site would be suitable for some, as yet unknown expanded capacity. To do so would only further what already appears to be the DOE's unjustifiable assumption that the current three sites will surely yield a licensable site at the end of site characterization.

The second issue of concern that results from the deferral decision is also based in the apparent security that DOE feels in being able to derive a licensable site from the current three candidate sites. Our concern is that with the deferral of the substance of a second repository effort, the last potential "insurance" for meeting the nation's high-level waste disposal goal is being essentially rejected by the DOE. The second repository program, while having been framed by the Congress as a sincere effort regarding equity among regions of the nation for the permanent disposal of the wastes, also carries with it an element, through a timely site selection process, of hedging against the eventuality of all first repository sites being found unsuitable for repository licensing. The other piece of statutory "insurance" in the NWPA is the process of consideration of a monitored retrievable storage facility. This, too, can be considered, in a clear reading of the statute, to be a means of safely receiving

wastes in a timely manner, if the need exists in the mind of Congress, and the development of a repository is not proceeding at a pace that meets the needs for removal of wastes from reactors on a fairly large scale. (We have no objections to an MRS facility being authorized by Congress if it is to serve such a demonstrated need, and if an acceptable site selection and investigation program is progressing at a pace amendable to the technical excellence that is required and expected of a final repository site decision.) Given the current legal situation involving the forwarding of an MRS proposal to the Congress, and the uncertainty of even eventual authorization, the assumption that the DOE's MRS proposal will be acceptable to the Congress is currently unjustified, and should not be incorporated into the DOE's program strategy.

Two additional pieces of "insurance" have also been completely rejected by the DOE to date. The first is the Office of Technology Assessment's proposal that four sites be characterized for a first repository. This was recommended as "insurance", and while we may not agree with the recommendation because of its underlieing assumptions, it still represents a piece of "insurance" that has been rejected by DOE. The final DOE rejection of "insurance" is the proposal that we and others have made in the past, and is restated in the conclusion of this testimony, to halt the current site selection process, establish new, objective site screening standards, rescreen the entire nation for potentially suitable candidate sites, and then reinstitute the process of selecting a candidate first repository site.

With all apparently feasible "insurance" available to the DOE without massive amendment to the NWPA now rejected by the DOE, it appears that it fully intends to take the heavy gamble that whatever comes out of the characterization of the three named

candidate sites, it can succeed in arriving at a licensed repository. This assumption is not only without foundation, but it casts a large and unnecessary shadow on the credibility of not only the DOE implementation of the NWPA, but it tarnishes the public credibility of the Nuclear Regulatory Commission's regulatory integrity, both conditions which certainly should not go unattended by the Congress.

V. Conclusion

There is now serious concern over the DOE's implementation of the Nuclear Waste Policy Act, both from the institutional and technical standpoint. Not all parties are dissatisfied for the same reasons, yet there seems to be an increasing level of pessimism regarding the potential to develop a high-level nuclear waste disposal facility under the current confidence and credibility crisis that has been continually advancing while being described to Congressional oversight committees. The site recommendation guidelines are the subject of a suit joined by nearly all affected interests in the first repository selection process, and some in the former second repository program. Even before the recent site nominations were announced, the site screening process was challenged and was dismissed on the basis of a finding that the review was not timely. This matter has now been re-filed as part of the recent Petition for Review by the State of Texas. The confidence and credibility crisis obviously began to develop early in this program and now that sites have been recommended for characterization, the crisis is manifest in federal courts from coast to coast.

It is our view that the intent and letter of the Nuclear Waste Policy Act demands technical excellence, which was certainly not exhibited in the recent narrowing of the nine sites under consideration to the slate of three sites recommended for site characterization. The Act also correctly recognizes that without a public process involving, in a meaningful and substantive manner, all the affected parties, the essential element of public confidence is missing from the equation for success. Again, it is our view that the public process has been unacceptably compromised, to the point that public confidence has been severely wounded, maybe to an unrecoverable extent for decades to come.

This combination of failures seems to demand attention even though the program managers have yet to acknowledge the depth and the seriousness of the problems. We continue to encourage Congress to provide guidance to DOE for a course correction in the DOE implementation of the Act that would call for a re-evaluation and revision of components of the site selection process as described earlier. The real costs in time and dollars of this approach should be evaluated and carefully weighed against the increasing likelihood of long program delays and the prospect of ultimate failure in meeting the national goal of safely disposing of the nation's accumulating inventory of high-level nuclear wastes.

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Senator DOMENICI. Thank you very much.
Mr. Dickie.

STATEMENT OF GORDON DICKIE, CHAIRMAN, MENOMINEE TRIBAL LEGISLATURE

Mr. DICKIE. Mr. Chairman, my name is Gordon Dickie. I am chairman of he Menominee Tribal Legislature, a tribe that lives in the State of Wisconsin on a 234,000-acre reservation.

I have submitted to the committee and members, written statements. I am not going to read those statements, or that statement, but I am going to touch on one or two other facts; one, in connection with the forest.

When timber operators in the early years were clear cutting thousands and thousands of acres of timber, the Menominees refused to allow them to clear cut the reservation. In 1908, Robert M. LaFollett, Sr., introduced legislation that was the first conservation measure in timber operations in this country. It would not allow anyone to clear cut timber on the Menominee Reservation. Only the fully ripened and mature timber could be cut.

The best estimate of the annual incremental growth was 20 million feet a year. This was also incorporated in the legislation. As a result, by the time they clear cut thousands of acres, we still had virgin timber on the reservation. We have as much timber today as we had in 1908.

Down through the years we have continued that practice. However, last year or 2 years ago we had a devastating tornado that leveled approximately 3,000 acres of some of the finest northern white pine anywhere in the lake States. So we have had to subtract that area from the forest.

Then we had a Dutch elm disease that could not be controlled and, as a result, we had to cut every stick of elm on the reservation.

In the meantime, we had planned scientifically to operate the forest so as not to overcut or undercut the forest. It is our belief that with the blowdown, with the Dutch elm disease and the installation of a nuclear waste repository on the reservation which would be located in the very heart of the best timber we have, that it would be very destructive, because that would mean several thousand more acres surrounding the site would have to be withdrawn from the forest.

In addition to that, roads built into the nuclear waste repository site would cost more acreage to be withdrawn. The Soo Line Railroad that runs through the reservation would have to build a spur line to the site. As a result, we could no longer profitably operate one of the largest sawmills in the lake States. We could no longer operate on the sustained yield basis that we are now.

In effect, it would destroy the economy of the reservation.

It would also have an adverse effect upon the slow developing recreational programs that we have in mind. We have just started developing white water rafting on the Wolf River that goes through the center of the reservation. Knowing the nature of people, many will be reluctant to come up there rafting, if they know the nuclear waste repository site is nearby.

All in all, we strongly object to the location of a nuclear waste repository on the reservation. And, incidentally, while they were talking about the millions of dollars that have been given in the study of these sites, the Menominee Tribe received a whole sum of $26,000 to try to develop the information in connection with this program.

The danger of being cut off now is very real. Yet, the danger of selecting the reservation is still a real threat.

I want to thank the committee for allowing me to testify and, as I said before, we have a written statement that we have left for the committee.

[The prepared statement of Mr. Dickie follows:]

STATEMENT OF

GORDON DICKIE, CHAIRMAN

MENOMINEE TRIBAL LEGISLATURE

BEFORE UNITED STATES SENATE COMMITTEE ON

ENERGY AND NATURAL RESOURCES

SUBCOMMITTEE ON ENERGY RESEARCH & DEVELOPMENT

June 16, 1986

Mr. Chairman and members of the Subcommittee. On behalf of the Menominee Tribe of Wisconsin, I would like to express appreciation for the opportunity to appear before you today to acquaint you with our concerns about the activities of the Department of Energy with respect to designation of portions of our reservation as a nuclear waste depository.

We were, of course, are relieved to hear of the May 28, 1986 announcement of the Department's decision to indefinitely postpone site-specific work for the second repository allegedly on the ground that progress in siting the first repository and the uncertainty of when a second repository might be needed were grounds for delay.

While we were heartened by the fact that the prospect of having a nuclear waste depository thrust into the heart of our reservation is no longer imminent, we still fear that this

proposal could and will be revised at a later time - particularly after the political problems surrounding the location of the first repository (now announced for either the states of Nevada, Texas or Washington) have abated. Public comments by DOE officials on this point have been equivocal and unsatisfying.

Our Tribe - consisting of 6,800 members with a reservation of some 234,000 acres that is nearly all tribally owned - is unequivocally and unalterably opposed to the location of a depository on our ancestral homeland.

At this time no one really knows whether the Wolf River Batholith, which underlays 90,000 acres of our reservation and has been designated as a "potentially acceptable site" for a nuclear waste depository, is a technically desirable place for such a facility. Thus far, DOE has done no field work and has based its preliminary conclusions on library research. Experts we have consulted believe that there are serious questions concerning possible contamination of groundwater that must be addressed.

But even assuming that the Wolf River Batholith is ideal for a nuclear waste depository, there are strong reasons why the Menominee Reservation should be excluded from consideration that do not depend on field work or further scientific analysis of the area.

First, our attorneys have advised us that under the Nuclear Waste Policy Act of 1982, Congress did not give the Department of Energy the power to move unilaterally against a tribe with respect to condemnation or other non-consensual use of tribal land. We are further advised that absent such an express congressional delegation of power, DOE cannot proceed with consideration of any part of the Menominee Reservation for a nuclear waste depository without tribal consent - consent that will never be given. The DOE proposal would also violate the Menominee Tribe's Treaty Right to the peaceful enjoyment of its reservation. We have specifically asked DOE to study this matter and determine whether we are legally correct and to spare us the agony of years of uncertainty about this threat to our survival. To date we have received no answer from them. If we are correct in our legal evaluation, it surely follows that DOE should expressly and formally abandon any attempt to include our reservation in its program.

But quite aside from the question of whether we have the power to prevent DOE from moving forward sometime in the future with its program on the Menominee Reservation, we think it important to note that so far DOE has displayed a total lack of sensitivity to tribal rights. Its processes have been totally skewed against the interest of Indian tribes in a way that has both violated the 1982 Act as well as other federal law governing federal-tribal relations. We think it is astonishing

that the process employed in the preliminary designation so far have completely excluded any consideration of the special status of Indian tribal lands or Indian tribes. We do not think it is an accident that the 12 areas thus far designated by DOE include 5 federally recognized Indian reservations totally or to a substantial degree.

In addition to these fundamental problems, we are also very concerned about the fact that DOE has decided to cut off all funding for work necessary to study their proposals subsequent to their unilateral and indefinite announcement of postponement. We greatly fear that we may find ourselves in a position where the proposal to designate our reservation is revived and we are given insufficient time to do the necessary work to evaluate DOE's plans.

I would like to request the Committee's permission to have included in the Record of this Hearing the comments of the Menominee Tribe submitted to DOE on April 16, 1986 in which the Tribe's concerns are spelled out in more detail.

I very much appreciate the opportunity to appear before you this morning and will be happy to answer any questions you might have about our tribe and its reservation.

Senator DOMENICI. Mr. Jim.

STATEMENT OF RUSSELL JIM, MANAGER, NUCLEAR WASTE PROGRAM, CONFEDERATED TRIBES AND BANDS, YAKIMA INDIAN NATION

Mr. JIM. Thank you, Mr. Chairman. My name is Russell Jim, Manager of the Nuclear Waste Program for the Yakima Indian Nation.

We have written comments here and we would submit them for the record. And I will not read them, due to respect and the time factor, but I would like to make some general comments, after which we would be open to questions.

Senator DOMENICI. Your statement will be made a part of the record.

Mr. JIM. Thank you.

First of all, I would like to state that Mr. Melvin Sampson, who is the elected representative, chairman of our tribal government, could not be here today because I am assuming he is practicing the government-to-government relationship and meeting with the Vice President of this country.

The Yakima Indian Nation brings to this subcommittee its concerns, along with the other people that have given testimony today. The Yakima Nation has been noted for its contribution to the parent legislation, the Nuclear Waste Policy Act of 1982. Regardless of whether or not the Congress had conferences, there was quite a history, as we saw it.

It is the first time, Mr. Chairman, that the indigenous population of this country was allowed to participate in such an important piece of legislation of this nature. And we feel it is one of the most important pieces of legislation of this century, because it involves the Yakima Indian Nation directly adjacent to the Hanford Works Project.

The question has arisen today about the process of selecting or eliminating the second repository. I hope that the consequences, as Mr. Evans has alluded to, do not entirely come to fruition and the other consequence of driving a wedge between the Eastern and the Western States and the eastern and the western tribes.

We have worked hard to try to create some type of unity, not only in the Northeast, but also throughout the country in regard to the indigenous population. So we have followed the critical path of the Nuclear Waste Policy Act and we are critical of the guidelines, we are critical of the preliminary determination of the site selection process, and on through to the draft environmental assessments, which are supposed to be based on the standards of the guideline, but they came out to us 2 weeks apart.

Now we are faced with the comments in regard to the final environmental assessment, wherein perhaps your staff will show you that they have gone so far as to even change religious sites in determination of what is religious and what is not religious anymore to the Yakima Indian Nation because of the activities of the Department of Energy in the Hanford area.

This is very disturbing to us, to say the least, and I think the logic of the uninformed stems from the fact that the true history

and proper history is not taught in the institutions across this country. And the more we say this, we feel that perhaps we can influence the National Education Association to show the proper history of these people so that we do not constantly go through litigation on every piece of legislation that comes about in this country.

We feel that we can go to legislation in regard to the recent acts of the Department of Energy. But, No. 1, we do not have the money.

The next issue, and it is well addressed here, is that this body, this subcommittee and the members thereof, have taken in hand the interpretation, the proper interpretation of the act, and we appreciate that very much. We hear your remarks and Mr. Evans's remarks and we feel that you have a good hand on what the interpretation of the acts should be and perhaps the Department of Energy will follow suit.

Senator DOMENICI. Thank you very much.

[The prepared statement of Mr. Jim follows:]

UNITED STATES SENATE

BEFORE THE

ENERGY RESEARCH AND DEVELOPMENT SUBCOMMITTEE

of the

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

Hearing on the Department of Energy's Purported "Indefinite Postponement" of the Siting Process for a Second Geologic Repository for High-level Radioactive Waste

June 16, 1986

STATEMENT OF RUSSELL JIM
NUCLEAR WASTE PROGRAM MANAGER
ON BEHALF OF THE YAKIMA INDIAN NATION

Mr. Chairman, members of the Subcommittee--

My name is Russell Jim. I am Manager of the Nuclear Waste Program for the Confederated Tribes and Bands of the Yakima Indian Nation. On behalf of the Yakima Nation, I wish to thank you for this opportunity to speak to you about developments in the federal high-level nuclear waste disposal program.

The Yakima Nation is an affected Indian tribe with respect to the proposed Hanford repository site in Washington State. The Yakima Indian Reservation is thirteen miles from the Hanford Site at the closest point, and the bulk of the Hanford Site is on Yakima Ceded Lands. Under the Treaty of 1855 the Yakimas retain hunting, grazing, and food gathering rights on those Ceded Lands and fishing rights at usual and accustomed places on the rivers

and streams which pass through them. It is on the basis of these Treaty Rights that the Secretary of Interior determined that the Yakima Nation is an affected Indian tribe under the Nuclear Waste Policy Act.

The Department of Energy recently announced, with only a couple hours prior notice to the affected parties, that it has selected the Hanford Site, Yucca Mountain, Nevada, and Deaf Smith County, Texas, for detailed study to determine their suitability for development as the first geologic repository for high-level radioactive waste and spent nuclear fuel. At the same time, the Secretary announced that he had decided to "indefinitely postpone" the siting process for a second repository.

The Yakima Indian Nation sincerely believes that the Energy Secretary does not have discretion, under the Nuclear Waste Policy Act, to postpone the second repository siting process. Therefore, this action by the Secretary was outside his authority, and must be reversed.

In explaining its decision to "indefinitely postpone" the second repository siting process, DOE's May 28 announcement states the following:

> DOE's decision to reassess the timing of its activities toward identification of areas for study as potential candidates for a second repository resulted from a number of factors. They include:
>
> o The continuing progress in siting the first repository;
>
> o The expectation of receiving Congressional authorization to proceed with the development of a Monitored Retrievable Storage facility;

o Projections of spent fuel generation are uncertain and have been declining;

o While there exists in the law the limitation for emplacing more than 70,000 metric tons of spent fuel in the first repository before a second repository is in operation, emplacement of that amount is very far into the future and Congress need not reconsider specifically a second repository until at least the mid-1990's or much later;

o A decision that spending hundreds of millions of dollars now on siting would be premature and unsound fiscal management.

Earlier this year, DOE identified, from among 17 States, crystalline rock bodies in Georgia, Maine, Minnesota, New Hampshire, North Carolina, Virginia and Wisconsin as potential candidates for a second repository. With the announced postponement, the 17 States are no longer under active consideration.

Under the NWPA, DOE is authorized to construct the first repository and conduct siting activities for a second. The NWPA does not authorize construction of a second repository. DOE intends to continue studies for a second repository as required by the NWPA, but those studies will focus only on technical issues.

As discussed below, none of these reasons are valid. Moreover, they do not, either individually or collectively, constitute legal authority for the postponement.

The Continuing Progress in Siting the First Repository

Assuming, for the sake of argument, that there is continuing progress in siting the first repository, that does not constitute authority to discontinue siting of the second. The NWPA did not include the second repository as an escape hatch to be used only if the first repository goes bad. Rather, it was created primarily as a matter of regional equity. There was an unfortunate presumption that the first repository would most likely be located in the West, although the overwhelming majority of the

waste to be disposed of is in the East. To offset the inequity of this situation, a compromise was reached which required that DOE go through the siting process for a second repository, and placed a limit of 70,000 metric tonnes on the amount of waste that could be accepted at the first repository until the second is open for business. The NWPA also required that regional distribution be considered in the siting of a second or subsequent repository.

These second repository provisions were an essential part of the political compromise that made passage of the NWPA possible in 1982. Nothing in the language or legislative history of the NWPA suggests that the siting process for a second repository was to be a discretionary activity on the part of the Secretary. To the contrary, the Act in section 112(b)(1)(C) clearly sets deadlines for DOE nomination and recommendation of sites for characterization for a second repository. The Act does not say the Secretary may nominate and recommend those sites, it says the Secretary shall do so. In section 114(a)(2)(A), the Act says the President shall submit to Congress a recommendation of a second site for a construction authorization.[1]

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[1] That the Act allows less than a year between recommendation of second-round sites for characterization and recommendation of a single site for construction authorization for a second repository appears to be a mistake in the statute. This discrepancy highlights the Act's unreasonable deadlines, but does not lessen their mandate to DOE for continuing progress in the second repository siting program.

The Yakima Nation does not insist that those dates must be met, any more than we insist that the unrealistic deadlines for the first repository program must be met. Nonetheless, what the deadlines require is continuing serious efforts by DOE to find sites for a second repository. Moreover, the limit on waste acceptance at the first repository clearly requires that a second repository be developed.

Even if progress in siting a first repository did constitute a valid reason for postponing the second, the fact is progress in siting the first is not all that DOE cracks it up to be. All of the affected states, Indian tribes, and citizens' organizations involved in the first repository program have repeatedly and vigorously expressed their convictions--before this Subcommittee and elsewhere--that DOE's conduct in the first repository siting program has been seriously deficient. All of the three states recommended for characterization and several citizens' organizations have already filed suits challenging DOE's recent actions. Our preliminary review of the final EA for Hanford and its accompanying documents indicates many serious failures of DOE to follow the requirements of the NWPA. We can only assume that the full review that is being undertaken by us will point up more such failures. If the administration will not require DOE to comply with the NWPA, we trust that Congress will do so. We do not expect Congress to allow this disregard of its direction.

In sum, the possibility is very real that the first repository program may be brought to a halt either by legislative or judicial action. As the MRS suit brought by Tennessee

demonstrates, the courts will require that the administration comply with the provisions of the NWPA. We firmly believe that Congress can and will do no less.

The Expectation of Receiving Congressional Authorization to Proceed with the Development of a Monitored Retrievable Storage Facility

DOE has no reasonable basis for any expectation whatsoever about the MRS. The agency's bungling of consultation and cooperation with the State of Tennessee has resulted in them being enjoined from even submitting their proposal to Congress. But even if Congress does eventually authorize an MRS, that in no way argues against construction of a second repository. A temporary handling and storage facility in the East does not take the place of a repository, as the MRS will eventually be cleaned up and decommissioned, whereas a repository is forever. The NWPA does not say build either an MRS facility or a second repository. Rather, it requires DOE to plan and find sites for both facilities, but requires additional authorization prior to construction of either of them. With or without an MRS facility, no single repository limited to 70,000 metric tonnes will be able to accomodate all the nation's high-level radioactive waste, even using the most conservatives projections of future waste generation.

Projections of Spent Fuel Generation Are Uncertain and Have Been Declining

This is true, but even if no more reactors are built, DOE projects that there will be about 120,000 metric tonnes of waste,

almost twice the 70,000 metric tonne limit on the first repository. As DOE's Mr. Rusche testified before a House Subcommittee just a few weeks ago, there will definitely be a need for a second repository if the limit on the first one remains in place. Mr. Rusche admitted in that testimony that DOE does not know if any of the first-round sites have intact rock bodies that would permit a sufficiently large repository to dispose of all the nation's HLW and spent fuel. If DOE does not proceed with the second repository program, the agency will be caught between a rock and a hard place if it turns out they do not have room for all the waste at any of the first-round sites. At that point, DOE would have to restart the second repository program with extraordinary delay and cost penalties.

While there exists in the law the limitation for emplacing more than 70,000 metric tons of spent fuel in the first repository before a second repository is in operation, emplacement of that amount is very far into the future and Congress need not reconsider specifically a second repository until at least the mid-1990's or much later.

The NWPA does not identify the time when 70,000 metric tonnes are emplaced in the first repository as the time when Congress is to make its decision on authorization of a second repository. Rather, section 112(b)(1)(C) of the NWPA requires the Secretary to recommend three sites for characterization for a second repository by not later than July 1, 1989, and section 114(a)(2)(A) requires the President to recommend a site to Congress for development as a second repository not later than March 31, 1990. While those deadlines are totally unfeasible--like most of the deadlines in the Act--they do make it quite clear

that second repository sites are to be characterized and a presidential decision on a site for a second repository is to be made long before the first repository goes into operation. In order to be in a position to recommend sites for characterization for a second repository in the early or mid-1990's, DOE must proceed with the site screening process now. Indefinite postponement of that process now quite clearly makes DOE compliance with its NWPA mandate impossible.

All DOE is really doing is proposing to wait ten or more years before asking Congress to lift the limit on the first repository. The Act does not say they should wait until the first repository approaches the limit to decide on a second--it says they cannot exceed the limit at the first until the second is in operation. Congress, when it enacted the NWPA, clearly contemplated that a second repository would be built.

A decision that spending hundreds of millions of dollars now on siting would be premature and unsound fiscal management

Contrary to the implications of this DOE rationalization, it is neither premature nor unsound fiscal management to proceed with siting for a second repository if there is a real possibility that a first repository cannot handle all the nation's waste, or if there is a chance that all the first-round sites will prove unacceptable, which is entirely possible. Moreover, it is not unsound fiscal management to locate a repository in the East, since the overwhelming majority of waste to be disposed of is located in the East and transportation costs represent a high

proportion of the total costs of waste management (as DOE admits they do).

It is unsound fiscal management to spend billions of dollars to characterize the site which DOE admits has by far the highest likelihood of failure and the highest projected costs to develop (Hanford). It is also premature and unsound fiscal management for DOE to now eliminate all its options other than the sites which it had already selected based on technically irrelevant criteria prior to passage of the NWPA. DOE assures you that these sites are all excellent, but almost nobody else outside the nuclear industry shares that optimism. Even a technological optimist must acknowledge that in a field as frought with uncertainty as this, DOE could be very wrong.[2] The process DOE used to choose its first-round sites makes that possibility all the more real. If it proves to be the case that none of the first-round sites are suitable, those who are in a hurry to see radioactive waste finally disposed of in a permanent repository will come to regret the day that DOE postponed the second repository siting program.

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2 The Challenger and Chernobyl disasters have recently reminded us of the dangers of technological arrogance.

The NWPA does not authorize construction of a second repository. DOE intends to continue studies for a second repository as required by the NWPA, but those studies will focus only on technical issues.

That the Act does not authorize construction of a second repository is irrelevant. The Act does make a second repository necessary by virtue of the limitation on the capacity of the first. The Act also does not authorize construction of an MRS facility. The lack of authorization to construct does not constitute DOE discretion to choose not to proceed with siting in either the case of the MRS or the case of the second repository. Congress did not yet make the final decision on construction of either of these facilities. Rather, Congress reserved to itself the future decision whether to authorize construction of a second repository, or lift the limit on the capacity of the first. But Congress did decide that DOE should be selecting sites and be in a position to move forward quickly on licensing and construction once Congress makes its decision. DOE's postponement of the siting process for a second repository illegally forecloses one of those options.

Studies focused on technical issues--whatever that means--will not satisfy the explicit requirement in the NWPA that DOE nominate and recommend sites for the second repository by 1989. The NWPA does not call for "studies" for a second repository; it calls for continuing real progress in finding a site for a second repository. DOE's announcement that the second repository program is indefinitely postponed is in blatant disregard of that plain congressional requirement.

Conclusion

The Department of Energy acts as if the NWPA is a menu, and the agency is free to pick and choose as it sees fit among the deadlines and other requirements of the Act. The 1998 deadline for acceptance of waste at a first repository has been elevated to holy grail status. Consequently, good science and meaningful participation by states and affected Indian tribes are all but foreclosed. For some reason, even one day advance notice of the recommendation decision was not deemed feasible by DOE. At the same time, DOE thinks it has the discretion to totally disregard the Act's deadlines for siting decisions for a second repository. Congress should clearly express its displeasure with DOE's blatant contempt for important NWPA mandates, and require the Department to proceed with second repository siting.

Senator DOMENICI. Senator Evans.

Senator EVANS. I appreciate the testimony. As is usually the case, every time we have witnesses appear before us, we learn things; and I was particularly pleased to learn of the Menominee Indians' long, long history of forest conservation and the history that went into that. No wonder you have a great desire to keep it that way and to keep the continuation of the long-term forest that you have got there.

Mr. Jim, how would you characterize the—first, considering that the Yakima Nation has concluded to be affected by a nuclear repository if it were to be located at Hanford, how would you characterize the opportunities you have had to consult with or to have any impact on the decisionmaking as it has gone along so far—with the Department of Energy, I am talking about.

Mr. JIM. We have not gotten entirely into the consultation cooperation effort. We have sat back and observed the efforts of the State of Washington and others, and we have gotten some cooperation that is very obvious and commendable from the field offices of the Department of Energy.

I think there is still perhaps, as we see it, confusion at the decisionmaking level and the misunderstanding of the involvement of the Yakima Indian Nation and other indigenous people.

Senator EVANS. Do you have any, or has the Tribe put together any specific recommendations for changes in the Nuclear Waste Policy Act, or do you have any this afternoon that you would like to suggest? Or is it just a matter of carrying out the act in the way you think it ought to be carried out?

Mr. JIM. We have not come out with any specific changes or rehearings on the act. We do hope to become definitely involved on a government-to-government basis and to be consistently consulted with.

Senator EVANS. Mr. Frishman, I was out for at least a portion of your statement. You may have referred to this, but how would you characterize the opportunities Texas has had to get your point of view across or engage in consultation or in whatever other ways gain the knowledge you need or provide the knowledge you have to the Department of Energy in this process?

Mr. FRISHMAN. In the geotechnical program which we have been involved in since about 1977, we have had reasonably good consultation at the technical level. And we think that has led to the benefit of both our understanding and the Department of Energy.

The public process problems that we have had are essentially similar along the line of—maybe some different specifics—but the similar types of problems that the other State and Tribes have had. And that constitutes a major difference in our understandings, I believe, of what consultation really should be. It constitutes, at least in our experience over the last year or so, not only a callousness toward the needs of the States to carry out their duties under the act in the area of public reviews, but it goes to the extent in most recent months of, if nothing else, just a lack of courtesy.

For example, the whole matter of how and when the announcements that were finally made on May 28 were made. We have been requesting since mid-February, and based on a planning document the Department of Energy had, that we would be provided some

reasonable notice of the announcement. Thirty days was what was offered in that original plan. We tried to confirm that through three letters that have gone unanswered, and went unanswered throughout.

Times changed. I received the official notice from the Department of Energy and that notice I received on the order of 20 minutes before the announcement at the White House. If nothing else, it is a breach of courtesy, and cooperation can only follow courtesy.

Senator EVANS. At what point are you in the State with any consultation and cooperation agreement? Have you moved down that road at all with the Department?

Mr. FRISHMAN. We have reviewed the issue. We are very familiar with the provisions of the Waste Policy Act regarding that. The position that best explains where we have been at least until May 28 came from a joint legislative or an interim legislative committee of three years ago, and that is a simple question of in the process of arriving at candidate sites, our general view was that we did not need a separate contract with the Federal Government to assure that they would comply with the law.

The consultation and cooperation agreement, as envisioned in the law, is not made mandatory until a candidate site is named. Prior to that, the process should be as the act lays out. Unfortunately and regretfully, we are in a situation where we don't believe that the act has served as the guidance for how this program is being operated right now.

Senator EVANS. Thank you, Mr. Chairman.

Senator DOMENICI. Mr. Frishman, first let me ask, did I make everyone's statement part of the record? Did I make yours, Mr. Jim?

Mr. JIM. Yes.

Senator DOMENICI. All right.

Mr. Frishman, I think technically you are right as you read the statute with reference to consultation and cooperation. I only raised the issue because, frankly, I think while you are the one there in the trench having to put up with this, clearly that does outline, even after the site selection is made, the way that the Federal Government and the State can indeed enter in an agreement that makes the process go from that point forward in very small pieces, with concurrence being required.

There even is no prohibition against arbitration, as you might know, if you reach the scientific impasse. That clearly can be done.

I know you are technically involved in all aspects and concerned about some. I urge that any State that is seriously and genuinely interested, that they see whether that kind of arrangement doesn't protect to a very major extent as they proceed through.

Perhaps in your case you wanted to wait till the end and maybe you are suggesting that we don't want to do it at all because we should not proceed at all. But I do urge that it does provide a very, very excellent way to get the kind of resorces, the kind of experts, the kind of objectivity that truly, as I understand the States that are bona fide—and I do not pass judgment that any are not—but bona fide concerns are truly accounted for in a properly executed agreement.

I hope with your expertise, you will continue to look at it.

Mr. FRISHMAN. I was not speaking against the advisability of at least discussing points of agreement following the naming of a candidate site. I was speaking of the need for such an agreement prior to the selection of three candidate sites.

Yes, we certainly will be looking at that process to try to gain whatever mutual benefits we can get out that. We see some difficulties at the present time. There are elements that are listed within the act where we can see yes, if the Department is going to be working full time with a large number of people in the State, then it is important to have understandings regarding just who does what, how they do it and how various people and agencies and organizations carry out their responsibilites.

Senator DOMENICI. And how disputes might be solved.

Mr. FRISHMAN. Correct. I was merely trying to emphasize that from our point of view, there is very strong time line before we even begin to think of having to contract for compliance, first with the law and then with whatever is agreed to be common sense on all parties.

Senator DOMENICI. Senator Evans, do you have anything further?

Senator EVANS. No.

Senator DOMENICI. We stand in recess--yes, Mr. Jim.

Mr. JIM. One more please, Mr. Chairman.

I forgot that we do appreciate the comments and the recommendations of our good Governor from the State of Washington.

For the record also, I would like to have it be known that as Senator Evans knowns, the Yakima Indian Nation and the State of Washington have been litigants against each other for years, but on this national concern we find ourselves working side by side with each other.

Senator DOMENICI. Very good.

Thank you very much. We stand adjourned.

[Whereupon, at 3:20 p.m. the hearing adjourned.]

APPENDIX

Responses to Additional Committee Questions

Department of Energy
Washington, DC 20585

August 6, 1986

Honorable Pete V. Domenici
Chairman, Subcommittee on Energy
Research and Development
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

On June 16, 1986, Secretary John S. Herrington appeared before your Subcommittee to discuss the site selection process for the second waste repository. The Secretary was accompanied by Ben C. Rusche, Director of the Office of Civilian Radioactive Waste Management, and Eric Fygi, Deputy General Counsel.

Following that hearing, you submitted written questions for our response to supplement the record. Enclosed are the answers to those questions, which also have been sent directly to the Committee staff.

If you have any questions, please have your staff call Mike Gilmore or Cathy Hamilton on 252-4277. They will be happy to assist.

Sincerely,

Robert G. Rabben
Assistant General Counsel
for Legislation

Enclosure

POST-HEARING QUESTIONS AND ANSWERS

Relating to
Hearings Before the

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

Committee on Energy and Natural Resources

U.S. Senate

June 16, 1986

QUESTIONS FROM SENATOR J. BENNETT JOHNSTON

SECOND REPOSITORY

Question 1: Section 112(b)(1)(C) and 114(a)(2)(A) of the Nuclear Waste Policy Act of 1983 require specific actions by specific dates to be taken by the Secretary of Energy and the President with respect to a second repository. You have said not only that you do not intend to take these actions by the dates required, but you are going to indefinitely "postpone" site-specific activities relative to the second repository program.

(a): How do you intend to deal with the 70,000 metric ton limitation on the first repository contained in section 114(d) of the Act in the event that it appears that this limit will be reached?

Answer: The 70,000 metric ton limit for the first repository would likely not be reached until well into the next century, after the year 2020, at the projected 3,000 ton/year acceptance rate. Well prior to that time, the timing for a second repository will be reevaluated and the program reactivated when necessary.

Question 1(b): **What data will you look at? How will you decide to reactivate site-specific activities for a second repository?**

Answer: In considering future changes in the second repository strategy, such as the reactivation of site-specific studies, DOE will look at many of the same factors that led to the May 28, 1986 decision. DOE would consider projected waste quantities and progress on the first repository and the Monitored Retrievable Storage (MRS) facility. DOE would also look at the data base developed up to that time, including non-site-specific information from the second repository technology program.

Question 1(c): What will be the Congressional role?

Answer: We do not anticipate the role of Congress with regard to the Nuclear Waste Policy Act will change. The Congressional role will likely include annual appropriations consideration, normal oversight activities by cognizant Committees and Subcommittees, and consideration of modifications to the Mission Plan, if any.

Question 1(d): Will hearings be held? Will you seek public comment first?

(e): What will be the process of interaction with the affected States on the question of reactivation of site-specific activities?

Answer: Hearings are not specified by the Nuclear Waste Policy Act (NWPA) and are not now envisioned. The amendment to the Mission Plan will be provided for review and comment as specified in section 301(b) of the NWPA. As the Department currently envisions it, the process of interaction with the States that the Department will follow with regard to the reinitiation of site-specific activity for a second geologic repository will conform to the provisions contained in the NWPA and will be consistent with operative consultation and cooperation agreements.

Question 2: What specific spent fuel projections do you base your decision on? Show the range of projections of military wastes.

Answer: DOE is using the U.S. Energy Information Administration's range of forecasts of net electricity generation by nuclear power plants and the attendant spent nuclear fuel discharges as the principal planning basis for the overall nuclear waste management program. Annually, the EIA publishes several projection series that reflect a broad set of conditions that could apply to the commercial nuclear power industry. The spent fuel discharge projection cases include a "No New Orders Case," "Low Case," "Middle Case," "High Case," and several sensitivity cases.

In response to reduced growth rates in the demand for electricity over the past few years, and due to the uncertainties facing the nuclear power industry, the EIA has continually lowered its projections of spent fuel discharges, including a significant decline between 1984 and December 1985 projections, which raises uncertainties regarding the timing for a second repository.

In December 1985, EIA adopted "extended burnup" as a reference assumption, because utilities are: 1) using fuel assemblies with higher burnup design limits; and 2) lengthening reactor fuel cycles. Adoption of these measures on an industry-wide basis could result in significantly lower fuel discharges over the next few decades. Under the "extended burnup" assumption, the estimate of cumulative spent fuel discharges drops to 106,000 MTU by the year 2020, from the 1984 figure of 130,000 MTU.

Based on the President's decision in April 1985 to emplace both defense high-level radioactive waste and commercial spent nuclear fuel in a licensed geologic repository, OCRWM, in concert with the Department's Office of Defense Programs, is proceeding with plans to accept and dispose of defense waste. In the Mission Plan published in June 1985, the Department indicated that less than 10,000 metric tons of defense waste, on a curie equivalent basis to commercial spent nuclear fuel, would be available for disposal by the year 2020. This number is currently being reviewed in the Department's consideration of the fee for disposal of defense waste.

Question 2(a): Are you really expecting no new orders of nuclear powerplants between now and 2000? If so, how do you expect growth in electric demand to be met?

Answer: DOE cannot predict whether or not new orders of nuclear power plants are to be expected. The EIA "No New Orders Case" is only one of several EIA electricity projections that the Office of Civilian Radioactive Waste Management (OCRWM) will continue to monitor as one of the planning variables in the implementation of the program. OCRWM will continue to monitor the entire range of all the projections, including those that assume continued growth in nuclear-generated electricity, to determine the timing of subsequent waste management facilities.

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Question 2(b): If there is any revival of the nuclear industry at all in the 1990's isn't it obvious that either the 70,000 metric ton cap must be lifted or a second repository will be needed?

Answer: Yes, although even without a revival of the nuclear industry these choices will probably have to be addressed at that time.

Question 3(a): **What options did the Administration consider in deferring the second repository? Which Congressional Committees were consulted prior to announcing the decision? Which Members of Congress? What were your reasons for proceeding as you did?**

Answer: The Department considered four options with regard to the second geologic repository. They were:

(1) Continue the second repository program in crystalline rock as currently outlined in the Mission Plan.

(2) Defer indefinitely site-specific work in crystalline rock.

  (a) Analyze the over 60,000 comments on the draft ARR and publish a final ARR, identifying 11 areas in seven States for future study.

  (b) Continue technical studies and intensify international collaborative activity in crystalline rock and possibly other geologic media.

  (c) Reconsider need and timing for second repository in mid-90's, and if a decision is made to proceed with siting, start with sites identified in final ARR.

(3) Defer indefinitely site-specific work in crystalline rock.

(a) Remove all sites in 17 States from further consideration. Catalog comments on the draft ARR and place on shelf.

(b) Continue technical studies and intensify international collaborative activity in crystalline and possibly other geologic media.

(c) Reconsider need and timing for second repository in mid-90's, and if a decision is made to proceed with siting, start the process over at the site screening stage.

(4) Discontinue all activity in crystalline rock for a second repository.

While a number of State delegations and individuals in the Senate and House were involved in several Congressional hearings, public briefings, public meetings, program briefings, and meetings with DOE management and professional staff, at which potential changes in the pacing and timing of the program were raised, the Department did not consult formally with either Congressional Committees or individual Members of Congress on the decision to postpone second repository

siting activities prior to announcing the decision.

Attached is a copy of Secretary of Energy John S. Herrington's Statement of May 28, 1986, which provides an explanation of the reasons underlying the decision to postpone indefinitely site-specific activities for the second repository.

U.S. DEPARTMENT OF ENERGY
OFFICE OF THE PRESS SECRETARY
WASHINGTON, DC 20585

DOENEWS:

STATEMENT BY JOHN S. HERRINGTON
SECRETARY OF ENERGY

NUCLEAR WASTE REPOSITORY
May 28, 1986

The Administration today has selected three candidate sites for the first geological repository for spent nuclear fuel and high-level nuclear waste.

The Department of Energy will now undertake detailed study and characterization of the three sites in Yucca Mountain, Nevada, Deaf Smith, Texas, and Hanford, Washington.

This action carries out the requirements of the Nuclear Waste Policy Act of 1982, which lays out specific and detailed steps leading to the construction of a nuclear waste repository.

Today's decisions are the culmination of extensive evaluations of these and other potential sites during the past three years. The Department's work included the compilation of thorough environmental assessments and widespread public comment--more than 20,000 comments were received by the Department and incorporated into our decision.

We have reached an important milestone and taken a significant step forward.

It is a clear sign that this Nation will have the capacity for safely storing and disposing of high-level nuclear waste well into the twenty-first century.

Based on the progress we have made toward selecting a first repository site, I have reassessed the timing of the Department's activities toward identification of candidates for a second repository, and I have decided to postpone indefinitely plans for any site-specific work related to a second repository.

In January, the Department issued a draft Area Recommendation Report which proposed preliminary field work in the north central and eastern parts of the country. Other than cataloging the comments received by the Department, no further work is planned on this report. As a result of this postponement, the areas identified in the report are no longer under active consideration. No other sites are under consideration.

(MORE)

Several factors convince me that this is a prudent decision:

-- studies for the siting of the first repository are proceeding satisfactorily

-- we are hopeful that Congress will authorize development of a Monitored Retrievable Storage facility, which will be a vital part of the overall disposal system

-- while projections are uncertin about the amount of spent fuel to be generated, it is apparent that the volume is growing more slowly than anticipated just even a few years ago.

-- in light of these projections, the first repository, which the law permits to hold up to 70,000 metric tons of waste, will be adequate in the foreseeable future.

Based on our review of this information it is the Department's opinion that the Nation need not consider a second repository until at least the mid-1990's -- or much later. It is clear that to go ahead and spend hundreds of millions of dollars on site identification now would be both premature and unsound fiscal management.

The Department intends to continue studies of a second repository program as required by the NWPA. These studies will, however, be technical in nature and not site specific.

We have taken several important steps today. We believe these actions are in the best interest of the American people and represent the most effective course for implementing the NWPA.

-DOE-

Question 3(b): What consideration was given to proposing amendments to the Act? What are the pros and cons of the option?

Answer: We believe that the Nuclear Waste Policy Act, while containing some imperfections, provides the national policy, institutional, and technical requirements, directions, mechanisms, and flexibilities for solving the Nation's nuclear waste disposal problem and currently requires no amending. Moreover, we consider the more appropriate mechanism for the announced reorientation of second repository activities to be an amendment to the Mission Plan, and possibly the budgetary process.

Question 3(c): **What consideration was given to presenting your concerns and proceeding with a public discussion of the options before a decision was made?**

Answer: The Department believes that the issues and concerns of the States, Indian Tribes, and the public at large that are associated with the second repository program were thoroughly and exhaustively aired during the public comment period that followed the issuance of the Draft Area Recommendation Report on January 16, 1986. The Department conducted over 70 public meetings and hearings at locations close to the sites identified in the report, received over 60,000 comments on the report itself, and met with State representatives on numerous occasions.

Question 3(d): What is your response to allegations that you have made this decision in order to assist the campaigns of Republicans seeking office in second repository States?

Answer: The decision was not made to support an election campaign of any candidate for office.

QUESTIONS FROM SENATOR J. BENNETT JOHNSTON

Question 4: How do you argue to States containing candidate sites for the first repository or States in which an MRS may be sited that the Act requires you to take certain actions when you are interpreting similar statutory language as discretionary in the case of the second repository?

Answer: The Department intends to place the entirety of its proposal for continuing to carry out the second repository program before the Congress through an amendment to the Mission Plan required by the Nuclear Waste Policy Act. This procedure will afford the Congress a thorough opportunity to review the second repository program through the procedures of section 301(b)(3) of the Act.

Question 5: Do you see any role for the second repository program as insurance in the event problems are encountered with the first round sites?

Answer: The Secretary of Energy has made a preliminary determination that all three first repository sites are suitable for a repository. Data gathered during site characterization will enable DOE to verify this preliminary determination. The expected performances of all three sites relative to the siting guidelines are high, which would seem to greatly minimize the possibility of all three sites being found unsuitable for a repository. Based on this expectation, DOE sees little role at this time for the second repository program as insurance for first repository problems.

Question 6: Do you believe that your decision will help convince a State to accept an integral MRS facility as proposed by the Administration or will your decision make such a case harder to make? Explain.

Answer: DOE believes that the primary point on which a State being considered for an integral MRS facility will focus is the MRS facility itself, and how it will be sited, designed, licensed, built, and operated. As long as good progress is being made on the first repository, the timing for the second repository should not be of major consequence to a potential MRS host State.

Question 7: Could you please clarify whether or not the Administration has cancelled the second repository program or just delayed it? Should residents of the seven second repository States assume that your decision means that their State can no longer be considered as a potential site for a repository? What should they assume?

Answer: DOE has not cancelled the second repository program. Site-specific work has been postponed indefinitely. The tentatively identified potentially acceptable sites named earlier this year are no longer under active consideration for a repository. Those sites have not been precluded from ever being considered in the future when DOE reactivates the site-specific screening activities. A reactivated program, however, would not assume a priori the potential suitability of areas previously studied.

FIRST REPOSITORY

Question 1: **Please explain in detail how it came to be that the site at Hanford was selected as a candidate site when its ranking under the multiattribute utility analysis was fifth in both preclosure and post-closure analyses.**

Answer: The rationale for selecting Hanford as a candidate site is described in the recommendation report (DOE/S-0048, May 1986). The discussion that follows summarizes the information, analysis, and conclusions presented in that report.

Multiattribute utility analysis is a tool for providing insights into the comparative advantages and disadvantages of the five nominated sites. It is a technique for systematically accounting for and quantifying as many factors and considerations as possible specified as relevant to repository siting by the siting guidelines. In making the site recommendation decision, it is important that consideration be given to the full range of insights (gained by sensitivity analyses) provided by the analysis and to the limitations of the analysis. In

regard to the latter, perhaps the major weakness is that the methodology is designed to evaluate the desirability of each site, not the desirability of combinations, or portfolios, of sites. The site recommendation decision is analogous to a portfolio selection problem, because DOE is not choosing a single site for repository development; rather, DOE must choose, from a suite of five well-qualified sites, three sites for site characterization. Combinations of three sites possess properties that cannot be attributed to individual sites, such as diversity of geohydrologic settings and rock types. Thus, the three sites indicated as most preferable by the multiattribute utility analysis do not necessarily constitute the most preferred combination when these portfolio effects are taken into account.

Two of the significant insights from the multiattribute utility analysis are that (1) all five sites appear capable of providing exceptionally good radiological protection for future populations for at least 100,000 years

after closure, and (2) the overall preclosure as well as composite ranking of sites is largely dominated by costs. Each of these insights is discussed in turn.

Although the Hanford site is ranked fifth in overall postclosure performance, it is marginally less favorable than the other sites. The differences between the Hanford site and the other sites are on the order of thousandths of the radiological release limits specified by the U.S. Environmental Protection Agency. We do not believe these differences are significant, especially when viewed in the context of Hanford's performance as far above the standards established by the EPA -- standards that are extremely stringent.

With regard to the preclosure rankings of sites, it is true that, considering all preclosure factors, the Hanford site ranks fifth. Although this ranking reflects all preclosure factors, it is nevertheless largely governed by repository costs and, to a lesser extent, by transportation costs. If costs

are not included, the preclosure ranking is dramatically different, and Hanford ranks first.

Costs also dominate the overall composite ranking of sites (that is, postclosure and preclosure considerations combined). In fact, the overall ranking considering all factors defined for use in the methodology exactly matches that on repository costs. If costs are removed from consideration, then Hanford is one of the three top-ranked sites over a reasonable range of values for weights assigned to postclosure versus preclosure performance.

The cost estimates discussed above are in constant 1985 dollars. If the time value of money is considered (i.e., discounted dollars), then the differences among the sites are greatly reduced. Moreover, the cost estimates for all sites are very preliminary, because of the preliminary nature of the repository designs. This uncertainty is further compounded by the fact that a repository is a first-of-its-kind engineering project, which makes the potential for major design changes very likely. Accordingly,

the higher costs estimated for the Hanford site are not so firm as to be the dominant factor in the site recommendation decision.

Another consideration in determining which sites to characterize, not accounted for in the decision-aiding methodology, is the value of diversity of rock types. The principle of seeking diversity is a central theme of the siting provisions in the Act (Sections 112(a) and 113(a)) and the siting guidelines. The diversity considerations arise from the premise that sites located in the same rock type may be subject to an as yet undiscovered common flaw. In addition, diversity allows an opportunity to consider options in such areas as waste package and repository designs and in meeting regulatory requirements, such as retrievability. Since Hanford is the only basalt site, it preserves this flexibility.

In summary, the relative advantages of including Hanford in the portfolio of sites to be characterized outweighed any loss in performance estimated by the multiattribute utility analysis.

Question 2: Please explain how a ranking methodology can be useful if all five sites score within a very narrow range near 100%. Doesn't it strike you that such a procedure does a fairly poor job of discriminating among sites?

Answer: We assume here that you are referring to the postclosure analysis of sites, since all the sites scored within a narrow range near 100, where 100 means perfect.

It is true that the postclosure analysis of sites did not indicate much discrimination among the sites. It does not follow, however, that the methodology which produced such a result is flawed or useless. The methodology is not designed to discriminate artifically among sites or to force discrimination where there is none. Rather, it is a tool for providing insights to help decisionmakers understand which sites are more desirable than others, and why. In the case of the postclosure analysis, the methodology indicated that all five sites are expected to perform extremely well and are capable of providing exceptionally good waste isolation under expected and disruptive conditions. Further, the confidence in the postclosure performance of the sites is high. "High confidence" here means that 98 percent confidence bands were computed by accounting for

uncertainties in scenario probabilities and releases that would result from each scenario. Although this represented an approximate analysis, the results indicate with a very high probability that releases for all sites would be well below the radiation-release limits contained in the EPA standards. The differences among the sites are extremely small, a finding that is consistent with other studies of expected repository performance at carefully screened sites.

QUESTIONS FROM SENATOR PETE V. DOMENICI

Question 1: Mr. Rusche has made some noticeable progress as far as "C & C" is concerned. The announcement of the postponement was a surprise to both the Congress and the States. What is the impact to the future "C & C" negotiations?

Answer: At this time, it is too early to determine whether the announcement regarding the indefinite postponement of site-specific activities in the second repository program will have any affect on planned negotiations with first repository States and affected Indian Tribes concerning Consultation and Cooperation Agreements.

Question 2: Menominee Tribe has charged that DOE has done no field work and has based its preliminary conclusions on library research, and is concerned about the groundwater contamination. Would you elaborate on the amount of field work done before each site was nominated?

Answer: The Menominee Tribe is correct in that the Department did not conduct field work in any of the 17 states that were considered for the second respository before site-specific activites were indefinitely postponed. During region-to-area screening the data used were either available in the open literature or provided by State agencies. This was the most practicable approach, given that 235 separate rock bodies covering an area of about 500,000 square miles were involved in this first phase of site screening.

Question 3: How much has DOE funded the State and Tribal assistance program concerning the 2nd repository states?

Answer: The chart below gives a breakdown of the States and Indian Tribes funding for FY83 through FY86.

FISCAL YEAR FINANCIAL ASSISTANCE REPORT
Crystalline Repository -- States and Indian Tribes

	FY83	FY84	FY85	FY86	TOTAL
States (16)	$920,376	$2,062,177	$2,269,026	$2,176,452	$7,428,031
Indian Tribes (22)	0	0	0	686,079	686,079
TOTAL	920,376	2,062,177	2,269,026	2,862,531	8,114,110

The States and Indian Tribes are being notified that the current financial assistance program will terminate as soon as possible, or in no instance continue beyond December 31, 1986.

QUESTIONS FROM SENATOR PETE V. DOMENICI

Question 4: How does DOE perceive the siting of 2nd repository to be a discretionary duty while the NWPA specifically mandated two deadlines?

Answer: The Department intends to place the entirety of its proposal for continuing to carry out the second repository program before the Congress through an amendment to the Mission Plan required by the Nuclear Waste Policy Act. This procedure will afford the Congress a thorough opportunity to review the second repository program through the procedures of section 301(b)(3) of the Act.

QUESTIONS - DOE

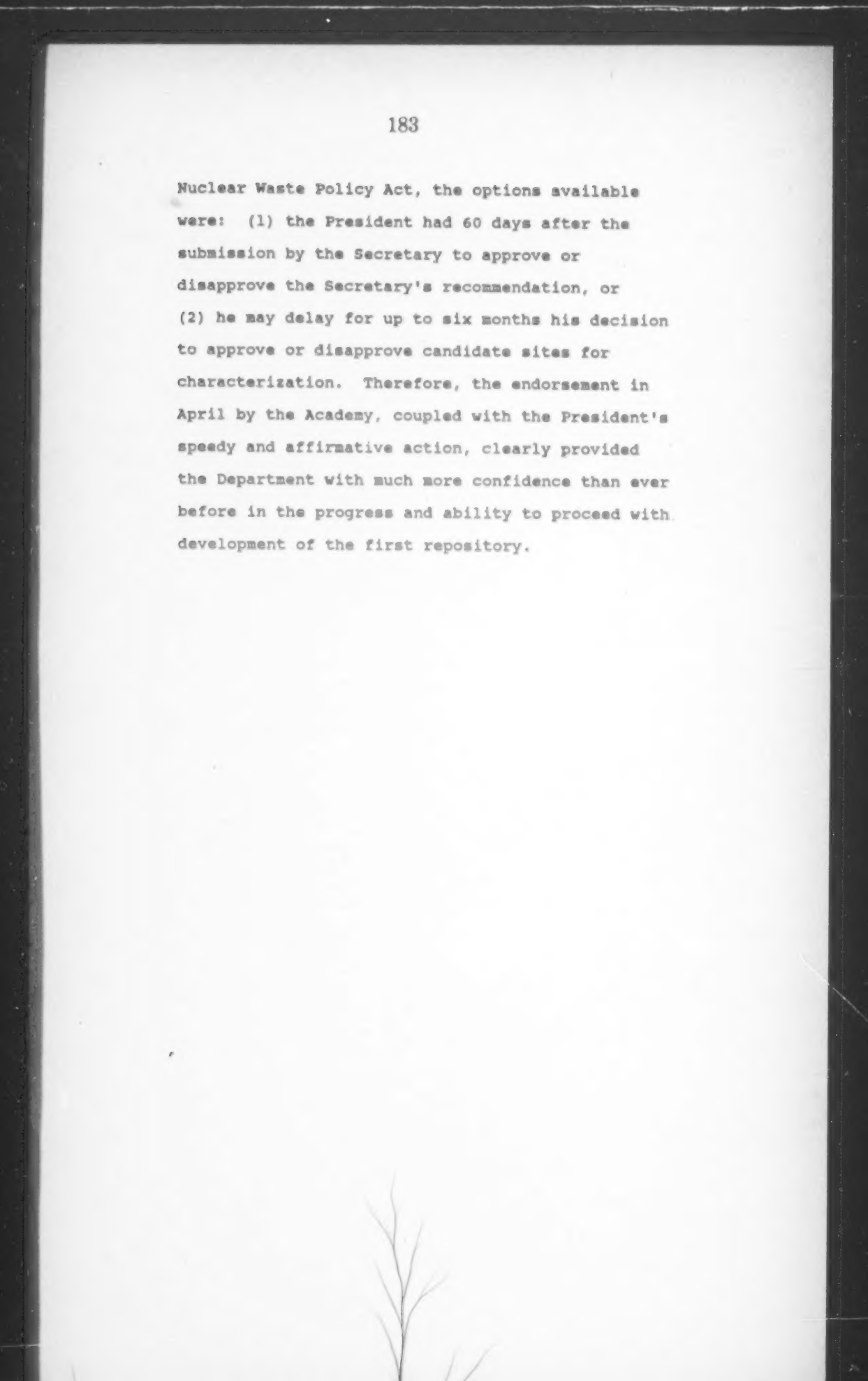
Question 1: Explain the relationship between "progress on first repository siting" and your decision to indefinitely postpone site-selection activities for a second repository. Are you implying that you feel that first repository siting is proceeding on a sound enough technical basis that a backup second repository is no longer necessary for the foreseeable future? What makes you more certain of the first repository progress now than you were a few months ago?

Answer: The progress on the first repository was one of several factors contributing to the decision on the second repository program. The Secretary of Energy made a preliminary determination that the sites in Nevada, Texas, and Washington are suitable for a repository. The decision was based on extensive data gathered prior to and during the preparation of very comprehensive Envirnomental Assessments.

The National Academy of Sciences' validation of the applicability of the decision-aiding methodology, the completion of the final Environmental Assessments, the Secretary's recommendation of sites, and the President's approval of the recommendation are all major activities in the Department's program to select a first repository site.

The speedy approval by the President was especially significant since, according to the

Nuclear Waste Policy Act, the options available were: (1) the President had 60 days after the submission by the Secretary to approve or disapprove the Secretary's recommendation, or (2) he may delay for up to six months his decision to approve or disapprove candidate sites for characterization. Therefore, the endorsement in April by the Academy, coupled with the President's speedy and affirmative action, clearly provided the Department with much more confidence than ever before in the progress and ability to proceed with development of the first repository.



Question 2: Your FY 87 budget request zeroed research work on subseabed disposal. Now you've decided to back off on further site selection work on a second repository. Do we have any backup options in the event that all three first repository sites are later found unsuitable?

Answer: The Department believes it is very unlikely that all three first repository sites will be found unsuitable. If this were to occur, the other potentially acceptable sites for the first repository represent backup sites for consideration. Also, if it ever did become apparent that one or more of the sites is unsuitable, further site screening activities in support of the first repository could be initiated.

Question 3: **Have you considered the insurance value that characterizing more than three first repository sites would add to the program, especially in light of your decision to postpone all of the second repository site selection work?**

Answer: The Department believes that all three sites recommended for characterization are good candidates for a repository and is confident that at least one, and probably all three, will be shown to be suitable after site characterization. The incremental value of characterizing another site for the first repository appears very small, while the cost of characterizing a site ($0.6 billion to $1 billion) is substantial.

Question 4: How much money has been spent so far on site selection activities related to a second repository? Has this money been spent for naught?

Answer: Site selection activities for the second repository program have cost a total of $64.5 million, including costs for grants to States and Indian tribes, interactions with the general public, and cooperative international efforts, as well as analysis of existing data.

We do not believe the funds have been spent for naught. We believe that a great deal has been learned through the work that has been completed to date. This knowledge will be of direct benefit to the consideration of a second geologic repository. The screening methodology that was developed with the cooperation of the States and Indian Tribes will be particularly useful, as will the cooperative international efforts, which will be a major part of our continued activity related to a second repository.

Question 5: Do you have some idea of what your revised FY 87 budget request will be for technical research on second repository work? What kind of work will this entail?

Answer: The revised FY 1987 budget request and technical research plan for the second repository program are still under development. Those study areas on which the program may concentrate in future years, all of which would be done on a non-site-specific basis, include:

1. Identify, develop and evaluate alternate siting strategies and advanced comparative methodologies for the selection of a possible second repository;
2. Evaluate and compare different geologic media, on a non-site-specific basis, for a possible second repository;
3. Evaluate characterization methods and techniques for site suitability analysis;
4. Identify, develop and demonstrate technologies that will maximize repository performance including sealing concepts, materials evaluation and engineered barrier performance evaluation;
5. Develop verified and validated models that will provide projections of repository performance; and
6. Develop those instruments and sampling techniques needed for near and long-term characterization, measurement and monitoring.

Question 6: Your spent fuel projection of 40,000 metric tons by the year 2000 does not take into account defense-generated high level waste. How does that affect the total?

Answer: It is assumed that by the year 2000 about 7,000 cannisters or the equivalent of approximately 3,500 MTU of defense high-level waste will be in existence, for a total of about 43,500 MTU of spent fuel and high-level waste.

Question 7: If your revised spent-fuel projections proved to be underestimated by the time we reach the year 2000, we would reach the 70,000 metric ton limit sooner than we anticipated. What would our options be in that case, if a second repository site weren't readily at hand? What impact might this have on the MRS program, which, as I understand it, would be acceptable to certain communities only if specific storage volume limitations were imposed? Wouldn't candidate communities for the MRS begin to feel a little uncomfortable, knowing that their facility might become a defacto storage facility of ever-expanding size if a second repository wasn't in the picture?

Answer: The amount of spent fuel to be discharged by the year 2000 is basically determined by the number of nuclear plants now operating or currently under construction. EIA's range of spent fuel discharge projections diverge only slightly in the year 2000, from a low of 40,000 metric tons to a high of 46,000 metric tons. Even if new nuclear plants were ordered in the near future, they would not significantly add to the spent fuel discharges until some time after the year 2000.

The MRS is not intended as a de facto storage facility or an alternative to the second repository.

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Question 8: I like to think that nuclear power will continue to play a major role in the domestic energy mix, and that in the not-too-distant future, utilities will begin ordering new nuclear plants to provide needed electricity as this nation continues to grow. DOE's decision to indefinitely postpone second repository work disturbs me from the standpoint of its underlying inference that "what we see now is what we get" later in terms of spent fuel. I for one cannot agree, and I don't think that is the position this Administration would want to take with respect to nuclear energy. But wouldn't you agree with me that, whether intentional or not, you are implying a very dismal future for nuclear power?

Answer: We agree that nuclear power is and should continue to be a major element in a sound long-term energy picture. The determination to postpone site-specific work on a second repository, however, derives from a number of factors including: (a) progress on the development of a first repository; (b) anticipation that Congress will authorize development of an MRS; and, (c) uncertainties in long-term spent fuel generation estimates. The combination of these factors led us to the conclusion that the first repository, which the law permits to receive up to 70,000 metric tons of waste prior to opening a second repository, will be sufficient until around the year 2020 at a receipt rate of 3000 metric tons a year. Thus, we have about ten years (mid-1990's) before we would need to proceed on siting work for a second repository. This allows us to preserve our options, thereby conserving

valuable resources. Meanwhile, we gain the benefit of extensive international cooperation by researching additional geologic media as potential repository host rock.

Question 9: One of the key elements embodied in the Nuclear Waste Policy Act of 1982 was the regional equity, brought about by the siting of two repositories and the capping of volume acceptance at the first repository. How does DOE propose to maintain this balance, now that it has indefinitely postponed second repository work?

Answer: DOE has indefinitely postponed -- not terminated -- the second repository program. If and when the need becomes clear, the Program will be poised to proceed.

Question 10: Does the Department intend to send up a revised Mission Plan reflecting the recent decision to postpone second repository site selection work?

Answer: The Department intends to submit to Congress an update of the Mission Plan in the form of an amendment reflecting the decision to postpone site-specific work for the second repository indefinitely. We intend first to submit the update to the States, affected Indian Tribes, the Nuclear Regulatory Commission, and other Federal Government agencies for comment. This draft will be provided to Congress.

Question 11: Will the receipt rate of 3,000 metric tons per year at the first repository be adequate to keep up with the projected spent-fuel generation rate and also take up the inventory of spent fuel already generated? What is the limiting factor that sets the receipt rate at this level? Could it be increased if necessary?

Answer: The 3,000 metric tons per year receipt rate for the first repository was established in the Mission Plan assuming two repositories and higher spent fuel discharge projections. According to the latest published EIA spent fuel projections (World Nuclear Fuel Cycle Requirements 1985, DOE/EIA-0436 (85) December 1985), 3000 MTU per year: exceeds the annual discharge rate for the no-new orders projection case in every year from 1986 to 2020; exceeds the annual discharge rate for low-case in every year from 1986 to 2020 except for 2012 and 2013; exceeds or matches the annual discharge rate for the middle-case for every year from 1986 to 2009. During these few years, the receipt rate of 3000 MTU per year will fall slightly below the generation, but will be made up in the remaining years while working off the existing inventory.

However, there is no technical reason why the receipt rate cannot be increased above this level. Until DOE completes the final repository

design in the early 1990's, flexibility exists to adjust the design to increase the receipt and emplacement rate.

QUESTIONS FROM THE SUBCOMMITTEE

Question 12: What law suits have been filed against DOE since the May 28 announcement?

Answer:

Petitioner	U.S. Court of Appeals	Docket Nos.	Date of Filing
State of Nevada, Governor of Nevada, and Nevada Congressional Delegation	Ninth Circuit	86-7307-86-7311	May 28, 1986
Nuclear Waste Task Force, Inc., Power, Inc., Stand, Inc. and a number of private individuals	D.C. Circuit	86-1309	May 29, 1986
State of Texas	D.C. Circuit	86-1310	May 29, 1986
State of Washington and Nuclear Waste Board of the State of Washington	Ninth Circuit	86-7326 and 86-7327	June 4, 1986
Kenneth O. Eikenberry, Attorney General of the State of Washington, on behalf of the State of Washington and Nuclear Waste Board of the State of Washington	Ninth Circuit	86-7325	June 5, 1986
State of Texas	D.C. Circuit	86-1332	June 6, 1986
Sierra Club	Ninth Circuit	86-7338	June 9, 1986
Nat'l Parks and Conservation Association; Don't Waste Utah; and Friends of the Earth	D.C. Circuit	86-1341	June 12, 1986

Question 13: In your statement, you say that interaction with Congress and the public is one of the most important mechanisms provided by the Nuclear Waste Policy Act. To what extent did you use this mechanism in reaching your decision to indefinitely postpone second repository site selection activities?

Answer: The Department's decision was based principally upon the considerations reflected in the Secretary's statement (attached to Question 3(a)). We also had the benefit, as was discussed in our response to Question 3(c), of extensive public comment regarding the second repository site selection process. The Department's interactions with Members of Congress and Congressional Committees, through oversight hearings and the budget process, have been both comprehensive and valuable. We look forward to positive interaction in the future as the program continues to evolve.

64-449 O—86——8

QUESTIONS FROM SENATOR DANIEL J. EVANS

Question 1: What are the projected costs of the Second Repository program, both in FY'87 and over the next four years?

(a): Please break these projections down into Operating budget, Capital budget, and Capital Construction budget.

Answer: The projected costs of the Second Repository program contained in the FY 1987 budget request are as follows:

	FY 1987	FY 1988	FY 1989
Operating	$72.5 million	$69.8 million	$67.9 million
Capital purchase	6.2 million	4.4 million	3.6 million
Construction	0	0	0
Total	$78.7 million	$74.2 million	$71.5 million

An amendment to the FY 1987 budget request will be submitted in the very near future which will delineate the revised funding requirements for the Second Repository program as a result of the decision to postpone Second Repository site-specific activities.

Question 1 (b): Please describe in detail the nature of the activities to be funded under the budget request.

Answer: Under the funding level proposed in the FY 1987 budget request for the Second Repository, we had planned to issue a final crystalline rock Area Recommendation Report and a draft Area Characterization Plan; develop detailed test plans and procedures for specific field activities; initiate area-phase field investigations consisting of intensive study and characterization of crystalline rock formations; expand interactions with States and Indian Tribes; and support expanded international cooperative efforts, such as the Atomic Energy of Canada Ltd./Underground Research Laboratory and Swedish/Stripa projects. The requested funding level also supports a continuation of studies investigating sedimentary rock to determine if that medium might contain potentially acceptable sites. A budget amendment is being processed in the Department which will delineate the revised funding requirements as a result of the recent decision. (See the answer to question 5. for a delineation of the revised work scope) (See the answer to question 2 (a).)

Question 2: What are the projected savings which result from the abandonment of site-specific work for the Second Repository?

(a): Given these savings, do you project a surplus in the Nuclear Waste Fund over FY '87 and FY '88?

Answer: We are currently revising our estimates of funding requirements for the Second Repository program in the context of the decision to postpone site-specific activities. Upon completion of that effort, we plan to submit an amended budget request to the Congress. A positive balance in the Waste Fund will continue.

Question 3: Are the legal costs associated with this litigation involving the Second Repository charged from the Nuclear Waste Fund?

(a): What are your current legal costs annually, and how much is expected to increase with the recent expansion of litigation?

Answer: The costs associated with the Department's defense of litigation brought against it under the Nuclear Waste Policy Act are borne by the Nuclear Waste Fund. Legal services, including defense of litigation, are provided through the Department's Office of General Counsel. Funds in the amount of $275,000 for staff support services to be provided by our Office of General Counsel are proposed in the FY 1987 budget request. Additional costs, primarily staff time, are incurred by the Department of Justice, which litigates for Federal agencies.

Question 4: What section of the Nuclear Waste Policy Act provides for the guidelines for the site characterization decision?

(a): Please describe and identify the provision in Section 112 which allows DOE to give acceptance rates for spent fuel a comparatively high priority over other criteria.

Answer: Section 112 of the Act specifies the guidelines which the Secretary must consider for recommendation of sites for a repository. In regard to prioritization of spent fuel acceptance rates, we are unaware of any provision in Section 112 that addresses this issue.

Question 5: What are your assumptions in terms of the number of operating reactors which you used to develop the spent fuel estimates contained in EIA's mid-case projections in World Nuclear Fuel Cycle Requirements, 1985? Of the Reactors now under construction, how many do you project will actually generate spent fuel?

Answer: The number of operating nuclear power plants is derived from EIA's projection of installed nuclear capacity. EIA's "Middle Case" projections of installed nuclear power through the year 1995 are based primarily on an assessment of power plants in operation, under construction, or ordered (often described as "in the construction pipeline"). Beyond 1995, EIA employs a variety of macroeconomic predictive tools to estimate installed nuclear capacity. The long-term assessment takes into account such factors as gross national product growth rates, relative energy prices, and market penetration of nuclear power and competing energy sources.

These assumptions translate into number of operating plants and approximate installed nuclear capacity projections. The attached table from the referenced document shows the projections of operable nuclear capacity

for four different case, including the "Middle Case," through the year 2020. The actual number of reactors would depend on their sizes. In the "Low Case" and in the "No New Orders Case," nuclear units in the construction pipeline were assumed to be canceled in the following situations: if they were less than 40 percent complete; if they were indefinitely deferred; if work was stopped at the site; or if there were severe financial constraints. Canceled plants obviously will not generate spent fuel. Currently, there are about nine reactors falling in this category, for a total of 10 gigawatts electric, that would not generate spent fuel in the year 2000.

Table 1. Projections of U.S. Operable Nuclear Capacity at Yearend[a] (Net GWe)

Year	No New Orders Case	Low Case	Middle Case	High Case
1984[b]	71	71	71	71
1985	77	77	80	85
1990	105	105	110	110
1995	108	108	117	117
2000	106	106	116	119
2005	106	119	149	174
2010	104	129	182	237
2015	59	137	216	306
2020	46	144	248	377

[a]Capacity values are based on net design electrical ratings and are rounded to the nearest gigawatt.

[b]Actual.

Sources: Historical (1984) capacity data are from U.S. Nuclear Regulatory Commission, Licensed Operating Reactors, NUREG-0020, Vol. 8, No. 5 (May 1984); capacity projections through the year 2000 are from Regulatory Licensing Status Summary Report, NUREG-0850, Vol. 12, No. 12 (January 1984); post-2000 capacity projections are from the WINES model.

if they were indefinitely deferred, if work was stopped at the site, or if there were severe financial constraints at the end of 1984.

A "severe financial constraint" could be any of the following conditions. (1) A utility suspends payment of its common stock dividend for four consecutive quarters. (2) A utility makes less than full payment on any bond or preferred stock issue related to the unit in question.[4] (3) The Moody rating of a utility on any bond issue related to the unit in question is B1 or lower. (4) The Moody rating of a utility on any bond issue is B2 or lower and the remaining unfunded cost of completing the nuclear unit is so great that in the opinion of the analyst, existing debt or a new debt issue would be rated B2 or lower. (5) The estimated cost of completing the plant would, in the opinion of the analyst, give rise to interest payments that would lower the utility's "interest coverage ratio" (after taxes) to less than 1.5.

[4]If the utility has no bonds obligated expressly to fund the nuclear construction project, the rating of the most recently issued bond applies.

Question 6: On page five of your written testimony, you say that the First Repository will be adequate to handle all spent fuel disposal requirements "well into the 21st century".

(a): Using EIA's 1985 data, what year specifically do you expect to have over 70,000 metric tons of spent-fuel accumulation?

Answer: As indicated in EIA's report, World Nuclear Fuel Cycle Requirements 1985, there are four main spent fuel discharge projection cases and three sensitivity cases. For the four cases, the years when 70,000 metric tons of spent fuel will be discharged are as follows: 2016 in the No New Orders Case, 2014 in the Low Case, 2012 in the Middle Case, and 2010 in the High Case. It will be some time after these dates, however, that the first repository will have accepted this much spent fuel. At the 3000 tonne/year emplacement rate for the first repository, the 70,000 metric ton limit will not be reached until some time after the year 2020. This is independent of all the spent fuel discharge projections.

Question 6(b): Please provide a table similar to that contained in the EIA report which incorporates defense high-level waste.

Answer: The following table of information depicts a possible scenario of estimated defense waste cannister production rates, making them available for delivery to the Nuclear Waste Program. These are not necessarily the dates when the cannisters would be received at the repository. Each cannister is assumed to be the equivalent of 0.5 metric tons of uranium (MTU), or approximately 21 cubic feet of vitrified DHLW. It should be recognized that the figures contained in the table are somewhat uncertain, since they are predicated on the construction of additional defense waste processing capacity and waste consolidation procedures.

Number of Canisters

Year	Savannah River	Idaho	Hanford	TOTAL
1988	--	--	--	--
1989	500	--	--	500
1990	500	--	--	500
1991	500	--	--	500
1992	500	--	--	500
1993	500	--	--	500
1994	500	--	--	500
1995	500	--	--	500
1996	500	--	200	700
1997	500	--	200	700
1998	500	--	200	700
1999	500	--	200	700
2000	500	--	200	700
2001	500	--	200	700
2002	500	--	200	700
2003	500	--	200	700
2004	500	--	200	700
2005	500	--	200	700
2006	500	--	--	500
2007	--	--	--	--
2008	--	500	--	500
2009	--	500	--	500
2010	--	500	--	500
2011	--	500	--	500
2012	--	500	--	500
2013	--	500	--	500
2014	--	500	--	500
2015	--	500	--	500
2016	--	500	--	500
2017	--	500	--	500
2018	--	--	--	--
2019	--	--	--	--
2020	--	--	--	--
TOTAL	9,000	5,000	2,000	16,000

Question 6(c): How much uncertainty is involved with the projections for the generation of defense high-level waste? What is a likely range (low to high) of annual generation?

Answer: Specific projections of the generation rate for defense high-level waste are linked to the production of defense nuclear materials, which in turn is governed by the President's Nuclear Weapons Stockpile Memorandum and by budgetary action of the Congress.

The figures presented in the previous table have been chosen by the Department as a nominal target level for planning purposes. It should be recognized that the figures contained in the table are somewhat uncertain, since they are predicated on the construction of additional defense waste processing capacity and waste consolidation procedures.

QUESTIONS FROM SENATOR HECHT

Question 1: Does the Department have any plans to allow high-level waste from foreign countries to be put in an American waste repository?

Answer: DOE has no plans to store high-level radioactive waste from foreign countries.

Question 2: Which States generate most of the commercial high-level radioactive waste?

Answer: The table that is attached provides the requested information. The data contained in the table are derived from the annual submittal of a report from the utilities operating nuclear power plants to the Department's Energy Information Administration regarding the discharge of spent fuel.

	MTU's IN STORAGE
Alabama	800
Alaska	0
Arizona	0
Arkansas	275
California	270
Colorado	3
Connecticut	670
Delaware	0
District of Columbia	0
Florida	715
Georgia	290
Hawaii	0
Idaho	0
Illinois	1,610
Indiana	0
Iowa	130
Kentucky	0
Kansas	0
Louisiana	0
Maine	300
Maryland	385
Massachusetts	295
Michigan	635
Minnesota	370
Mississippi	0
Missouri	0
Montana	0
Nebraska	290
Nevada	0
New Hampshire	0
New Jersey	425
New Mexico	0
New York	1,175
North Carolina	310
North Dakota	0
Ohio	95
Oklahoma	0
Oregon	160
Pennsylvania	790
Rhode Island	0
South Carolina	935
South Dakota	0
Tennessee	125
Texas	0

Utah		0
Vermont		290
Virginia		600
Washington		0
West Virginia		0
Wisconsin		490
Wyoming		0
	TOTAL	12,433

As of December 31, 1985

Question 3: **Do you think it's fair to tell the people of Nevada, at the other end of the country from the States that generate most of the high-level waste, that we may have to bear the entire national burden for waste disposal "indefinitely," to use the Department's wording?**

Answer: The Department's decision to postpone indefinitely site-specific work for the second geologic repository program does not, in our view, change the overall thrust of the Nuclear Waste Policy Act, which calls for (Sec. 112(a)) "consideration (by the Secretary) of the advantages of regional distribution in the siting of repositories." The decision announced on May 28, 1986, indicated that the Department, for a variety of reasons, among them lowered spent fuel projections, felt that it was sound public policy to postpone site-specific second repository siting activities. Latest projections indicate that there will not be a need for a second repository until some time after 2020. That means that, given a 25-30 year siting and construction time span for a repository, the Department does not have to initiate site screening activities until the mid-1990's. In addition, the decision on a second repository will be made before a first repository is operating. Therefore, one State will not bear the entire burden.

Consequently, the Department does not view that an unfair burden is being imposed on citizens of western States.

Question 4: Don't you think the eastern States, which generate most of the waste, should at least have to face the possibility that they will eventually have to keep their own waste east of the Mississippi River?

Answer: The Department believes, given current thinking regarding the screening process for the second geologic repository, that when the screening is reinitiated in the mid-to-late 1990's, the eastern States may face the possibility that a geological repository will be located in the eastern United States.

Question 5: The President has chosen Hanford, Washington; Deaf Smith County, Texas; and Yucca Mountain, Nevada as sites to characterize for the first high-level nuclear waste repository. Please note that I said the first, not the one and only repository.

The documents distributed by the Department on this decision include many graphs comparing the five initial candidate sites. Does the Department have at this time any ranking for the three top sites, for instance, which might be in first place, second place, and so forth?

Answer: For the reasons outlined in response to Question 8, the Department does not have any ranking for the three sites selected for site characterization.

Question 6: **Is public health and safety, both pre-closure and post-closure, the single most important criterion for choosing a site?**

Answer: There are no criteria that are "more important" than public health and safety in selecting sites. However, such qualitative statements about relative importance are imprecise and difficult to translate into quantitative values. To make the meaning of "more important" unambiguous, it is necessary to attach a range of impacts to each objective. Value tradeoffs among the objectives with specified ranges can then be made. Such value tradeoffs involve answering questions like "How much should be given up with regard to one objective to achieve a specified improvement in another?"

An example involving pre-closure siting factors might help to clarify the concept. Consider two hypothetical sites, A and B. Site A is estimated to produce only very slightly fewer pre-closure radiological fatalities than site B but produces much higher environmental and socioeconomic impacts, many more nonradiological fatalities (say from mining accidents), and much higher economic costs. It seems reasonable that site B is preferable to site A despite the fact

that site B produces slightly more radiological fatalities than site A. Many additional examples are discussed in Appendix G of the Department's methodology report (DOE/RW-0074, May 1986).

Question 7: Do you agree with me that the cost factor has received excessive weight in DOE's analysis of sites up to this time?

Answer: We interpret the term "analysis" to mean all documents published to support the site nominations and recommendation for characterization, namely, the environmental assessments, the methodology report (DOE/RW-0074, May 1986), and the recommendation report (DOE/S-0048, May 1986).

With this in mind, we do not agree that costs have received excessive weight. The weights assigned to costs in the decision-making methodolgy, for example, are those that would be appropriate if it were necessary to select one site for development as a repository based only on current information. The current decision is analogous to a portfolio-selection decision because the DOE did not choose a single site for repository development; rather, the DOE chose three sites that appear to justify the investment in characterizing them. The choice of three sites was made from a list of five sites that had been shown both in the environmental assessments and in the methodology report to be exceptionally well-qualified,

especially with regard to post-closure performance, and very comparable except for costs. Accordingly, DOE does not believe that it is appropriate for estimates of the ultimate costs of repository construction and operation and of waste transportation to be a dominant factor in the decision to select three sites for characterization. In coming to a recommendation decision, all factors, including costs, were given careful consideration.

Question 8: **Assuming the costs for each of the three sites were equal, which of the three sites would be best, based on what we know at this point?**

Answer: Depending on the weight given to post-closure versus pre-closure considerations and assumptions about post-closure and pre-closure performance, any one of three sites could be shown numerically to be the "best" (assuming costs of each of the three sites were equal) by the decision-aiding methodology. A graph depicting the results of just such a sensitivity analysis for base-case assumptions about post-closure and pre-closure performance of the sites is shown in Figure 5-7 (page 5-10) of the methodology report (DOE/RW-0074, May 1986).

We note that in making the site-recommendation decision the "best" site is not relevant because the DOE did not choose a single site for repository development; rather, the DOE chose three sites that appeared to justify the investment in characterizing them.

Question 9: How do you plan to change DOE's approach so that cost will, in the future, be put in its proper perspective?

Answer: With regard to the treatment of costs in the site-recommendation decision, we believe our approach was correct at this point in the process. The methodology used to aid the site-recommendation decision and any methodology developed to aid future siting decisions does not make decisions; rather, its purpose is to gain insights as to the comparative advantages and disadvantages of the available siting options. After site characterization and subsequent development of more reliable repository and waste-transportation system designs, from which cost estimates are derived, the Department will reevaluate the proper perspective of costs and take appropriate steps.

Question 10: Are you aware that the Yucca Mountain site may pose security problems for national defense activities taking place at the Nevada Test Site and other nearby military facilities?

Answer: We are, of course, aware of the defense activities taking place near the Yucca Mountain site. It is our judgement that the operation of the site can be conducted so as not to interfere with the national defense program. Further, we are considering ways to isolate the site, such as fencing and separate roads, to maintain the security of the Nevada Test Site and other nearby military facilities.

Question 11: Are you aware that, according to the U.S. Geological Survey, the Yucca Mountain site is in an area subject to natural earthquakes?

Answer: The Department is well aware of the earthquake potential at the Yucca Mountain site. The United States Geological Survey (USGS) is working with us to evaluate that potential. Our current understanding of the site's seismicity is discussed in the Department's final Environmental Assessment. While Yucca Mountain is located in a seismically active region, available technology should be able to accommodate earthquakes postulated to occur near the site. The Department, through the USGS, is monitoring natural earthquakes with a dense seismic network and is performing detailed geologic studies to evaluate the earthquake potential of faults near the Yucca Mountain site. As these studies continue, estimates of seismic hazard for the site will be updated.

Question 12: Nuclear testing at the Nevada Test Site produces manmade earthquakes. Isn't the Department concerned that these manmade quakes would eventually threaten the ability of a Yucca Mountain site to contain high-level nuclear waste?

Answer: Based on our current understanding, any future weapons testing at the Nevada Test Site will not affect the ability of the Yucca Mountain site to contain high-level nuclear waste. The closest identified future location for potential weapons testing is Buckboard Mesa, about 23 kilometers (14.3 miles) from the Yucca Mountain site. Studies are ongoing to estimate both the strong ground motion from such events and the maximum distance from weapons tests that induced aftershocks may occur. If a repository is built at Yucca Mountain, it must withstand the ground motion from natural earthquakes as well as underground nuclear tests. Potential natural earthquakes on faults near the Yucca Mountain site would be more severe than induced seismicity from testing at Buckboard Mesa. As discussed in the final Environmental Assessment, it is unlikely that faulting and/or ground motion could cause loss of isolation. The unsaturated conditions at Yucca Mountain limit the water available to dissolve and transport radionuclides such that the likelihood for loss of isolation is very small.

Question 13: The State of Nevada has sued the Department to provide funds for the State to do independent research at the Yucca Mountain candidate site. Nevada officials tell me that the DOE has not been cooperative in this regard, despite a federal court ruling that supports Nevada's position. Now that Yucca Mountain has been officially selected for site characterization, will DOE change its position and promptly provide the funds Nevada needs for independent research?

Answer: The State of Nevada submitted a 1986 grant application in the amount of $4.68 million. On April 30, 1986, the Department of Energy awarded $3,589,886. In a letter dated June 2, 1986, Governor Richard Bryan's office was informed that an additional $464,281 for some of the primary data collection activities was approved. On July 1, 1986, a meeting was held between Governor Bryan's staff and Department representatives to resolve the issues remaining on the balance of $534,073 in primary data collection activities. At the meeting, it was agreed that 3 of the remaining 4 studies would be funded in the amount of $371,612. This action will bring the 1986 grant to $4,425,779. It was jointly agreed that the remaining study would not be reasonable to fund.

Question 14: How many years overlap should there be in the operation of the two repositories?

Answer: The needs for nuclear waste disposal in this country do not create a requirement for a specific amount of overlap in the operation of two geologic repositories and DOE has not established such a requirement. The benefits and costs associated with having an overlap need to be evaluated on a continuing basis using the best information available at the time. Such evaluations will be done to provide support for decisions on when a site-specific second repository program should be reactivated

Question 15: What year do you project the first repository will stop receiving waste?

Answer: If the first repository begins operation in 1998 and receives about 3400 metric tons annually (which is the receipt rate once the initial startup phase is over), the first repository would reach 70,000 metric tons around 2022. Based on the current statutory capacity limit of 70,000 metric tons, the repository would then no longer receive waste.

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Question 16: You say you have indefinitely postponed the second repository. Does this mean you believe this Nation will never need a second repository?

Answer: The Department has not indicated that we believe, based on current spent fuel projections, that we will not need a second geologic repository. The Department believes that it was prudent to postpone siting activities for a second repository until the mid-1990's or later.

Questions 17 to 20: Will we need a second repository before the year 2015? 2025? 2050? 2100?

Answer: As indicated in EIA's report, World Nuclear Fuel Cycle Requirements 1985, there are four main spent fuel discharge projection cases and three sensitivity cases. For the four cases, the years when 70,000 metric tons of spent fuel will be discharged, thus filling the first repository are as follows: 2016 in the No New Orders Case, 2014 in the Low Case, 2012 in the Middle Case, and 2010 in the High Case. It will be some time after these dates, however, that the first repository will have accepted this much spent fuel. The emplacement rate for the first repository is such that the 70,000 metric ton limit will not be reached until approximately 2022.

Question 21: Do you believe there should be some overlap in the operation of the first and second repositories, or do you want to close down the first before the second opens up?

Answer: As noted in the answer to question 14, the needs for nuclear waste disposal do not create a requirement for a specific amount of overlap in the operation of two geologic repositories. The benefits and costs associated with having an overlap need to be evaluated on a continuing basis using the best information available at the time. DOE will be conducting such evaluations to provide support for decisions on when a site-specific second repository program should be initiated.

Question 22: If the Department succeeds in indefinitely postponing the second repository, will the Department seek to amend the law to allow the first repository to accept more than 70,000 tons of waste before the second repository opens?

Answer: The Department, as we have previously testified and stated on a number of occasions, is not in favor of amending the Nuclear Waste Policy Act. We believe that the Nuclear Waste Policy Act, while not precise in all respects, provides the national policy, institutional and technical requirements, directions, mechanisms, and flexibilities for solving the Nation's nuclear waste disposal problem and currently requires no amending.

Question 23: If the Department succeeds in indefinitely postponing the second repository, will the Department look more favorably on sites for the first repository that could physically accept more than 70,000 metric tons of waste?

Answer: The Department's criteria for selecting a first repository site will not be affected by indefinite postponement of the second repository site selection.

Question 24: **Based on available information, does the Department share my position that the Yucca Mountain site could not physically hold more than 70,000 metric tons of waste?**

Answer: The Department's available information indicates that the Yucca Mountain site has a capacity greater than 70,000 MT. As discussed in Sections 6.3.1.3.3 and 6.3.3.2.3 of the Environmental Assessment (DOE/RW-0073, May 1986), approximately 1,850 acres are potentially useable for emplacement of waste. The current repository design concept requires approximately 1,520 acres to emplace 70,000 MT. Thus, the site can accommodate more than 70,000 MT based on the current conservative design assumptions, and substantially more if higher thermal loadings prove feasible.

Question 25: Would the authorization of a monitored retrievable storage facility for high-level waste to be located in the Eastern United States take some of the pressure off the Department to stick to a tight schedule for selection of a site for the first repository?

Answer: The MRS is an intermediate facility which is beneficial to the overall waste management system. The MRS will not store waste indefinitely and does not represent an alternative to the disposal function of a geologic repository.

The authorization of the potential MRS facility should not be of major consequence to a first repository.

Question 26: What alternatives to geologic disposal on a continental land mass are being considered by the Department for a Nuclear Waste Repository?

Answer: The DOE has been pursuing a program to determine the technical feasibility of subseabed disposal of high-level nuclear waste as an alternative to a terrestrial repository, pusuant to Section 222 of the Nuclear Waste Policy Act. Current plans call for no further funding of this program beyond FY 86 with a completion of activities in FY 87.

Question 27: What are the prospects for subseabed disposal of high-level radioactive waste? When would this option be available for actual waste disposal according to the current schedule?

Answer: So far the investigations of the feasibility of subseabed disposal have not disclosed any insurmountable environmental and scientific impediments to the successful deployment of this option. Nevertheless, the program has not explored in detail the technical and engineering issues that need to be resolved for successful use of this option. In addition, some very difficult institutional issues, such as the international and domestic context for licensing a subseabed repository and the siting of a port in the U.S. for offloading nuclear waste, may interfere with the adoption of this option. The Department has recommended to Congress that funding for the subseabed disposal program be discontinued beyond FY 86. However, assuming the subseabed effort continued on its current schedule, it is estimated that emplacement could start between 2010 and 2015.

Question 28: If Congress were to provide additional funding for an all-out research effort on subseabed disposal, how soon could we make this option available?

Answer: This is a difficult question to answer, since the Department has made no specific plans for such a contingency. If Congress were to redirect program priorities from deep geologic disposal to subseabed disposal, we believe that there would not be much improvement over the current schedule (see answer to previous question). The issues involving institutional, regulatory, and international matters will likely require more time to resolve than technical issues. Accordingly, additional funding is unlikely to improve the schedule.

Question 29: Why did the United States stop its nuclear fuel reprocessing program?

Answer: Nuclear fuel reprocessing by the Government, which began in the early 1940's, continues to support U.S. defense needs. Commercial reprocessing efforts, which began in the mid-1960's, were effectively halted in 1977. At that time, licensing activity on the nearly completed Barnwell, South Carolina, reprocessing plant was suspended, and a licensing application for a large plant by Exxon Nuclear was later withdrawn.

In October 1981, President Reagan lifted the ban on commercial reprocessing and established U.S. policy that the private sector would take the lead in developing commercial reprocessing services. The role of the Government was to remove unnecessary regulatory impediments and pursue consistent, long-term policies concerning reprocessing.

At this time, it appears that new reprocessing initiatives from industry are unlikely in the U.S. for at least the next several years. This observation is based on lack of near-term economic incentives, and the perceived industry concern with licensing uncertainties.

Answer 29
(continued): The lack of economic incentives in the U.S. stem from the current low cost of uranium, excess enrichment capacity, and decreased demand for recovered plutonium for Light Water Reactor recycle or liquid metal reactor development.

Question 30: Do other countries reprocess nuclear fuel? Have they experienced any significant environmental or foreign policy problems due to their reprocessing activities?

Answer: Several other countries currently reprocess light water reactor fuel or are planning new, large scale reprocessing operations. These include the United Kingdom, France, the Federal Republic of Germany, and Japan. India reprocesses spent fuel from its heavy water reactors. The Soviet Union also reprocesses fuel from its reactors and from some Eastern European countries. We are not aware of any significant environmental or foreign policy problems these nations have experienced due to their reprocessing activities.

Question 31: Do you have any reason to believe that this country would have any different experience from that of the other countries now reprocessing spent fuel, if we were to resume our own reprocessing operations?

Answer: Probably not, except that continued technical and management improvements should be expected.

The Department of Energy has a small, continuing program of reprocessing research and development, focusing on remote operations and maintenance, that provides the basis for enhancements in safety and reliability and for reduced access to material, reduced personnel exposure, and improvement in environmental and safeguards areas. The U.S. also has international exchange agreements with several countries in the fuel cycle area that offer access to operating experiences.

Question 32: In your estimation, would it be more expensive during the rest of this century for the Federal Government to reestablish a fuel reprocessing program, or to spend money on characterizing the three sites selected as candidates for the first repository, and eventually building that repository?

Answer: It would be more expensive for the Federal Government to establish a fuel reprocessing program because it would be in addition to the costs of the program that would still have to be carried out to provide for the disposal of the residual wastes from the reprocessing operation. The current waste program is intended to accept the small amount of reprocessed wastes from previous commercial operations, as well as the defense wastes from reprocessing. The program is also maintaining the flexibility to accept reprocessing wastes if such a venture is undertaken by the private sector. It is the policy of the Department to remove regulatory impediments to private sector reprocessing rather than have the Federal Government undertake reprocessing.

Question 33: If this country were to resume reprocessing of spent nuclear fuel, by what percent could we reduce the volume of waste that would have to go into the first repository?

Answer: Reprocessing does not have a dominant effect in reducing the amount of nuclear waste requiring disposal. The constituents of spent fuel that are removed during reprocessing, uranium and plutonium, comprise a small fraction of the initial waste volume and heat load. The heat load from the remaining fission products determines the spacing in the repository, which is essentially unchanged from spent fuel. Therefore, the repository volume is not significantly reduced.

Question 34: Would reestablishing a fuel reprocessing program allow us to delay the date by which we would need a nuclear waste repository? If so, by how much?

Answer: The question is difficult to answer unless some assumptions about the size, intent and timing of the reprocessing program are made. The program could be sized to reprocess some or all of the spent fuel, one or more reprocessing facilities could be constructed, etc. If the decision were made in the near future to initiate reprocessing, a facility could probably be sited, designed, constructed, licensed by the Nuclear Regulatory Commission and begin operations in 12 to 15 years. Spent fuel is already in storage to supply the reprocessing operation and will continue to be produced for the foreseeable future. Reprocessing wastes would be produced soon after facility operations begin, in which case a repository could be needed on about the same schedule currently being followed in the High-level Nuclear Waste Program.

Question 35: How many metric tons of high-level waste are in this country now, which we eventually will need to put in a repository?

Answer: There are currently 12,500 MTU of high-level waste suitable for disposal in a repository.

Question 36: How much more waste do you expect existing and planned nuclear power plants to generate by the end of the next century?

Answer: DOE projects approximately 40,000 MTU of spent fuel will require disposal in a repository by the year 2000. By 2020, DOE projections range from 74,000 MTU to approximately 125,000 MTU of spent fuel. The Department has no projections for generation of spent fuel by the year 2100.

Question 37: How much high-level defense waste needs to be put in a repository at this point?

Answer: Based on the President's decision in April 1985 to emplace both defense high-level waste (DHLW) and commercial spent fuel in a licensed geologic repository, the Department is proceeding with plans to convert DHLW into a form suitable for geologic disposal. Current plans call for the total production of 16,000 canisters of DHLW through the year 2020. This is roughly equivalent to 8,000 metric tons of uranium, using a curie equivalence basis to commercial spent nuclear fuel.

Question 38: **How much more high-level defense waste do you expect this country will generate by the end of the next century?**

Answer: Specific projections of the generation rate of defense high-level waste (DHLW) are linked to the production of defense nuclear materials, which, in turn, is governed by the President's "Nuclear Weapons Stockpile Memorandum" and by budgetary action of the Congress.

The Department plans to immobilize DHLW in borosilicate glass that will then be packed in corrosion resistant canisters for ultimate disposal in a deep, geologic repository. Current plans call for the cumulative production of 7,000 canisters of DHLW by the year 2000. Assuming each DHLW canister is equivalent to 0.5 metric tons of uranium (MTU), the number of canisters produced by the year 2000 would be equal to 3,500 MTU. DOE estimates, for planning purposes, that a total of 16,000 canisters of DHLW will be produced through the year 2020. This translates into 8,000 MTU, or approximately 336,000 cubic feet of vitrified DHLW. DOE has no estimates of DHLW production beyond 2020.

THE STATE OF NEVADA
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RICHARD H. BRYAN
Governor

TELEPHONE
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July 8, 1986

Senator Pete V. Domenici
SD-434 Dirksen Senate Office Building
Washington, D.C. 20410

Re: Second Round Site Selection of Nuclear Waste Repositories

Dear Senator Domenici:

Thank you for your recent request for my additional views supplemental to the June 16, 1986, hearing of your subcommittee, regarding options other than complete reversal of DOE's decision to stop work on the second repository, which might restore regional balance and credibility to the nuclear waste disposal program.

First, I believe that a Congressional reversal of DOE's decision to stop work on the second repository is needed. DOE's unilateral selection of which provisions of the Act to implement, and which to ignore, constitutes an unlawful executive determination in the face of Congressional mandate. Moreover, the Nuclear Waste Policy Act must be taken as a whole. In the event that any section of the Act is invalidated, because of legal defect in its content or enactment or because of its manner of execution, then the entire balance of the Act is also invalid. The Act contains no serverance provisions.

Second, DOE is legally wrong in basing its decision to abandon the second repository selection upon the current apparent "need" for a second repository. At the hearing of your subcommittee on June 16, 1986, testimony was offered regarding the need for a second repository for high-level nuclear waste. That information presupposes the Nuclear Waste Policy Act or Nuclear Regulatory Commission regulations require the demonstration of need for a second repository before it could be licensed. However, the Act's legislative history indicates that it is the reasonable prospect that the first facility's 70,000

metric tons capacity will be reached by the time its construction authorization is granted which determines whether a second repository is needed. The number of metric tons of spent fuel existing after the 70,000 metric ton capacity is reached is academic to the legal question of whether a second round repository is needed.

On December 20, 1982, when the Senate considered the Nuclear Waste Bill Senator Levin offered an amendment to the NRC licensing section of the bill. (See 128 Cong. Rec. S 15652, S 15653). The amendment clarified that nothing in the Act detracted from the licensing requirements of the NRC, including presumably a determination by the NRC that a repository was needed. Senator Gorton stated:

"I understand that by adopting the [Levin] amendment we are not in any way changing the requirements of the statute that the maximum capacity for one facility will be 70,000 metric tons and that the reasonable prospect of reaching the capacity within approximately 12 years [the time from passage of the Act until the statutory date for NRC issuance of construction authorization] constitutes the need for a second facility."

Senator McClure responded:

"The Senator is correct."

Leaving aside the legal defects of the DOE's decision to stop work on the second repository, there are several substantive amendments to the Nuclear Waste Policy Act which Congress could enact to better restore regional balance and credibility to the nuclear waste disposal program. They are as follows:

1. Amend the last sentence of § 302(d), 42 U.S.C. 10222(d), to provide: "the Secretary is hereby authorized to construct <u>two</u> repositories and one test in evaluation facility."

2. Amend § 112(b), § 114(a)(2), and (d), 42 U.S.C. 10222(b), 10134(a)(2) and (d), by deleting all of the specific dates contained therein.

3. Amend § 112(b) to require that sites be characterized in form geologic media including salt and granite as well as basalt and tuff.

4. Amend § 112(a), 42 U.S.C. 10132(a), to require that DOE amend its site selection guidelines so that they include the minimum specific engineering properties (stated in numerical terms), either mechanical or chemical, which must be observed in any host location in order to realize performance of the Environmental Protection Agency standards for containment of radioactive materials.

5. Further amend § 112(a), 42 U.S.C. 10132(a) to require that DOE amend its site selection guidelines so that they require that all potential host locations be compared on the basis of the increased risks to the public health and safety which may be experienced because of the length, mode, or route of transportation required by the selection of specific host locations. (Section 112 already requires this but DOE has not included this analysis in the guidelines).

6. Reject DOE's current proposal for a monitored retrievable storage facility inasmuch as it constitutes a variance from the Act's mandate that MRS proposals provide an alternative to deep geologic disposal rather than an integrated part of deep geologic disposal. Re-assert a Congressional request for a real alternative approach.

7. Clarify, by amending 114(f) 42 U.S.C. 10134(f), the Act's requirement that the environmental impact statements accompanying any application for construction authorization, consider two bona fide alternatives to the proposed site, at which site characterization is complete, and which the Secretary of Energy, after characterization, has determined to be suitable for development. Also generally, amend any provision of the Act relating to comparative evaluation of respective sites to ensure that the information upon which comparative evaluations are based is essentially equivalent at all compared sites.

8. In the alternative to all of the above, amend the Act by deleting § 112(b) altogether and requiring that any state within which nuclear power is produced, or which uses nuclear power purchased from another state to join together with such other states to identify potential repository sites within their borders. Using this regional concept, the DOE could then proceed to characterize for a repository to serve these states. By this device, states in one region of the country, by refusing to organize with geographically distant states, could create regional equities. States which neither create nor use nuclear power would have no responsibility for its maintenance and storage.

I hope that the above observations and suggestions are helpful to you in evaluating what to do now that the DOE has unilaterally breached the intricate compromise upon which the Nuclear Policy Act is based.

Sincerely,

RICHARD H. BRYAN
Governor

RHB/dkl

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June 24, 1986

Senator Pete V. Domenici, Chairman
Subcommittee on Energy Research and Development
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Senator Domenici:

I have received your letter of June 17, 1986, in which you request my response to one question, as a follow-up to the June 16, 1986 hearing before the Senate Committee on Energy and Natural Resources, Subcommittee on Energy Research and Development, regarding the second high-level nuclear waste repository program under the Department of Energy's Office of Civilian Radioactive Waste Management.

Your question is as follows:

> Besides a complete reversal of DOE's decision to stop work on the second repository, what other options could you suggest that would restore regional balance and credibility to the nuclear waste disposal program?

Response: Contained in both the written summary of my testimony before you on June 16, 1986, and the full text of that testimony, both of which were presented to the Subcommittee, is my response. The specific statements I have written on this matter are found on pages 3 and 4 of the Summary testimony, and on pages 20 and 22 of the full text of my submitted testimony.

I appreciate this opportunity to respond to your post-hearing question, and if you have further questions regarding the DOE's implementation of the Nuclear Waste Policy Act of 1982, please do not hesitate to contact me.

Sincerely,

Steve Frishman

Steve Frishman, Director
Nuclear Waste Programs Office

SF:dp

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June 30, 1986

Hon. Pete V. Domenici
Subcommittee on Energy Research
and Development
U.S. Senate
317 Dirksen Senate Office Building
Washington, D.C. 20510

VIA COURIER

Dear Chairman Domenici:

Enclosed is the response of the Yakima Indian Nation to the followup question you submitted following your June 16 hearing on the Office of Civilian Radioactive Waste Management's second repository program.

Sincerely yours,

Dean R. Tousley

Dean R. Tousley

ASSOCIATE ATTORNEY FOR
THE YAKIMA INDIAN NATION

Enclosure

cc: Russell Jim
James B. Hovis

YAKIMA INDIAN NATION RESPONSE
TO JUNE 17, 1986 FOLLOWUP QUESTION FROM THE
SENATE SUBCOMMITTEE ON ENERGY
RESEARCH AND DEVELOPMENT

Question

Besides a complete reversal of DOE's decision to stop work on the second repository, what other options could you suggest that would restore regional balance and credibility to the nuclear waste disposal program?

Response

In the opinion of the Yakima Indian Nation, the only way to really restore credibility and equity to the nuclear waste disposal program would be to start from scratch with a new set of genuinely discriminating siting guidelines, and screen the entire nation with the objective of finding the best possible sites, for either one or more repositories, from a primarily geologic perspective. In our view, the factor most responsible for the extremely low credibility the program now has is DOE's insistence on beginning the screening process for the first repository with sites it had already selected prior to NWPA passage, without the benefit of appropriate siting guidelines. Two of those nine initially-identified potentially acceptable sites--which not coincidentally are among the three which DOE now recommends for characterization--were chosen on the geologically irrelevant basis that they are already used by the federal government for nuclear activities.

As was clearly pointed out in the Subcommittee's June 16 hearing, the decision whether to construct a second repository is a future one for Congress. Similarly, the decision when to engage in the siting program for a second repository, quite contrary to DOE's position, was already made by Congress when it enacted the NWPA.

If Congress wishes now to accede to DOE's viewpoint that it is unnecessary and uneconomic to proceed with second repository siting activities at this time, amendment of the NWPA will be necessary. If that is the course Congress chooses to take, the credibility and regional balance in the program absolutely mandate that the existing second-round sites and/or other sites from throughout the country be included in a new, technically rigorous screening for the best sites for characterization for the first-and-possibly-only repository. As Sen. Evans pointed out at the June 16 hearing, the five years-or-so delay that this new screening would entail is quite inconsequential in light of the very long period of concern in this program.

For Congress to permit DOE's program to go forward with only the pre-NWPA sites under active consideration would be profoundly unwise, for at least two reasons: First, it would absolutely destroy the delicate political and regional balance that made passage of the Act possible, constituting actually a political double-cross of epic proportions. Second, because of the way those pre-NWPA sites were initially selected (based on technically irrelevant grounds), it would be the best way to maximize the chance that the government's efforts to solve this national problem would end yet again in utter failure.

To reiterate: the only way to restore credibility and equity to this program would be to do a technically rigorous screening of the entire country, based on new guidelines that emphasize geologic considerations, for however many repositories are deemed prudent. For the success of the program, it is not sufficient to simply reverse DOE's purported postponement of the second repository siting process, since the first repository siting process is already tainted beyond repair.